

Manufacturers Record

Exponent of America



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Single Copy, 20 Cents.

Baltimore, Md.
OCTOBER 13, 1921

UNIVERSITY MICROFILMS
DURHAM, N.C.

Who Will Answer These Vital Questions?

From the cashier of a leading country bank of Georgia we have the following presentation of some very vital matters:

"Knowing your characteristic way of going to the root of a matter and finding ways of relieving evils that may be found, it has occurred to me that you might be able to render a great service in bringing about a deeper interest on the part of all classes of people of the country in the welfare of the producing classes. One way that we might suggest is by showing the consuming public how little the actual cost of the finished product would be increased by adding to the price paid the producer for his raw material enough to change his year's toil from a losing to a profitable basis. For example, take a \$3 shirt made from (we guess) $\frac{3}{4}$ of a pound of cotton, which, at 20c. per pound, would cost 15c. Suppose the farmer is paid 40c. for his cotton (and it is costing the average cotton farmer much more than this to grow cotton this year) that would add only 15c. to the cost of the \$3 shirt (we should say it "should" cost only that much more) unless the manufacturer, jobber, retailer, commission man, etc., should do as has been true in many instances in the past, viz: double the price of the shirt merely because the price of the raw material had been doubled. Another example is in the matter of sweet potatoes. These sold last season, by farmers to dealers, at 1 $\frac{1}{4}$ c. per pound and were retailed in an adjoining state at 6c. per pound. At this time farmers are being paid 75c. per hundred, and you can probably learn what they are bringing in your city.

"The writer has not the command of language or force of reasoning to put up the right kind of argument to present to the readers of your splendid magazine to convince them of their duty to take this interest in the producers to the extent of co-operating in getting them a fair price for their products, but we do believe that you have both the ability and courage to champion the cause of the farming classes and create a widespread sentiment that will result in a deeper appreciation by the general public of the present condition of the average farmer. Indeed, the majority of farmers, whose weary days of toil, of ten to fourteen hours per day, yield him the yearly satisfaction of having a deficit to carry over into the next year, with little hope of better conditions during the next season's work.

"This letter is being written after listening for several hours to appeals from farmer debtors of our bank for renewal of part or all of the debts brought over from last fall or for additional loans to pay the other fellow who is threatening to foreclose a mortgage given to secure debts of previous years. Under these conditions the writer's brain is not clear enough to express well the thoughts which we are undertaking to put before you. I trust, however, that the purpose of this letter is sufficiently clear to show what we are hoping that you may be in position to do, viz: show the people at large what a small matter is the actual increase in the price of a shirt, a pair of shoes, suit of clothes, etc., should the price paid the producer for the raw product be doubled, provided the manufacturer, wholesaler, jobber, retailer, etc., do not take advantage of this fact and add an unreasonable amount to the price of the finished product.

"This increase in price paid the producer would mean the difference with him between loss of his year's work and a fair reward, between the ignorance of his children and the chance of education, between a continued life of drudgery and debt and a chance to pay for a little home for his industrious family and, in some cases, between hope and despair.

"Possibly another illustration or two will be interesting. A farmer recently, when cotton was selling at 12 $\frac{1}{2}$ c. per pound, was asked \$1.25 per pound for cotton rope, as the farmer expressed it, "sell you my cotton at 12 $\frac{1}{2}$ c. per pound and buy it back at \$1.25 per pound, just twisted." Another farmer brought his green hide to the local dealer and was paid 35c. for the whole hide and he paid 45c. for a hamestring and \$4.50 for a pair of rough shoes.

"We have confidence in the sense of justice of the vast majority of the American people to believe that, when they know the real situation, they will demand that the producer be paid a living price for his products and that the others handling his products do not add an unreasonable price to each turnover and the final price of the finished product. Will you not help to show up the need of correcting the conditions?"

The writer of the foregoing letter has stated the case so clearly that though not intended for publication we give it here, omitting his name and address. The appeal he makes for the farmers upon whose work we all depend for food and clothing, the appeal for the farmer's ability to educate his children and pay his debts and live in hope rather than in despair, should touch every heart. But more than that, let it be understood, once and forever, that unless the farmer does get a better show he will quit the job and then starvation food supplies and famine prices will endanger the nation.

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For Permanent, Fireproof Homes —And Economical

You can build this home with back-plastered Hy-Rib Metal Lath for practically the price of wood sidings; and thus secure a high-grade residence at an economical cost. Not only for the exterior, but for the interior as well, Hy-Rib Metal Lath should be used to stop fires and prevent plaster cracking. Under all circumstances use it in the five vulnerable points:

1. All bearing partitions, stud partitions in walls, including a basket to hold incombustible material as a fire-stop.
2. Ceilings under inhabited floors, especially over heating plants and coal bins.
3. At chimney breasts, around flues and back of kitchen ranges.
4. Stair-wells and under stairs.
5. As a base and reinforcement for exterior stucco.

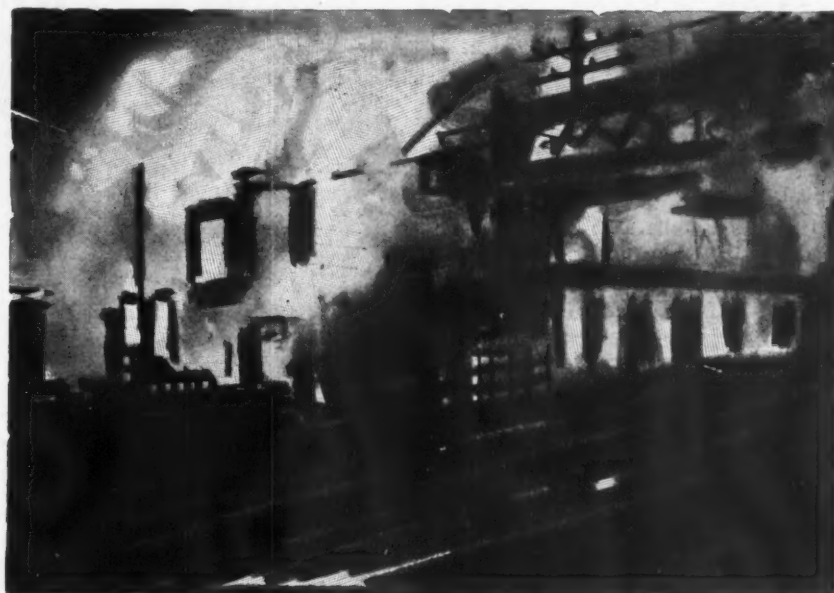
Hy-Rib and Metal Lath will enable you to complete the job in less time and at less cost than any other permanent, fire-resisting construction. The owner's satisfaction will increase during the years to come as walls, ceilings and partitions remain in perfect condition.

Overcoating with Hy-Rib Metal Lath and stucco will transform an old frame house into a modern, attractive residence. Write us for full information.

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Warehouses and Sales Offices in Principal Cities







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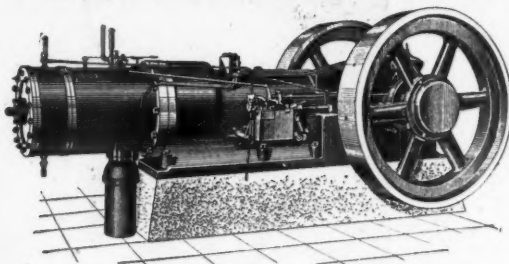
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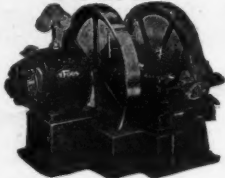
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RETURN TUBULAR BOILERS
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Longitudinal Drum Water
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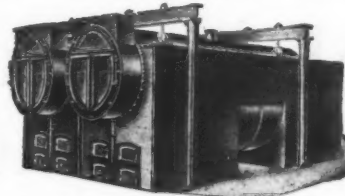
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Fire Without Having A Cleaning Period On



For Use with Either Natural, Induced or Forced Draft
FOR DETAILED INFORMATION WRITE

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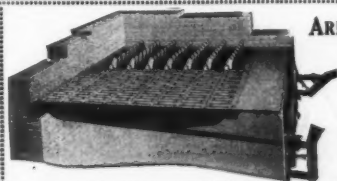


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while your plant is in operation.

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Double-Shift Rocking Grates

Have 10% more air space than any other grate
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The Strength in Rope

Any rope may have a high initial breaking strength. But Whitlock All-Manila retains its great strength throughout its unusually long, serviceable life—and *that's what counts.*

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Whitlock All-Manila is the rope that is guaranteed superior in every respect to the U. S. Government Bureau of Standards Specifications, including strength, quality of fiber, and length per pound.

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Write today for our new Catalog describing the complete line of Whitlock Manila and Sisal products.

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OIL CANS, TORCHES, TALLOW POTS, FILLERS, ETC.

HIGHEST CLASS OILERS IN THE WORLD.

INDESTRUCTIBLE—WILL STAND MORE ABUSE THAN ANY OTHER MAKE—AND NOT LEAK.

EAGLE WELDED STEEL GOODS are positively unaffected by heat. By our patented WELDING process all seams are fused and melted together without the use of a single drop of brazing compound or soldering flux of any kind. By this WELDING process the two thicknesses of metal actually become one piece, thus literally doubling its strength at the WELDED joint.

EAGLE

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Largest Oil Can Makers in America

WELLSBURG, W. VA.

OILERS

Made of Steel with braised joints and seams. For all purposes. No leaks.

GUARANTEED

Also makers of Everlasting Steel

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Gas Combination Burners

Burns either gas or oil separately or together; simple of installation, operation and construction.

Send for Our "Save Fuel" Circular

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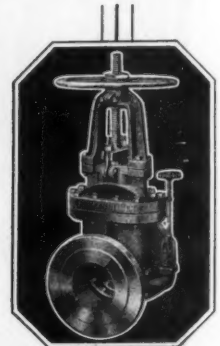
Valves and Engineering Appliances

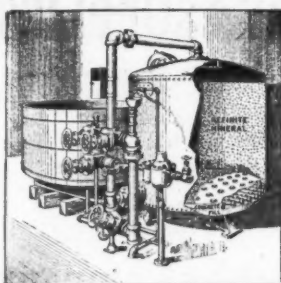
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LARGEST MANUFACTURERS OF
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WATER SOFTENING SYSTEMS
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BOOTH LIME SODA WATER
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For every water trouble there is a satisfactory solution by Refinite Systems. Power Plants and Mills recognize the economic value of Refinite Soft Water in reducing operating costs, increasing production and insuring higher grade work. Information without obligation.

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Simple - Accurate - Dependable

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WATER PURIFICATION SYSTEMS
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A necessity for turbine protection, engine cylinder economy and utilization of superheat for all its benefits.
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Hot Water

Submit your water-
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"A gallon an hour or millions per hour"

Roberts filters, filtration plants and appliances are built to meet every clean water requirement—industrial, municipal or domestic.

Units up to 500,000 gals. daily capacity carried in stock.

Our Engineering Department is at your service.

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**Don't
Shut Down**

but while continuing to
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quick temporary repairs
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PLIBRICO
JOINTLESS
FURNACE LINING

Then as soon as opportunity offers put in a complete PLIBRICO setting—front and back arches, baffles, side walls, bridge walls—and you will need no further repairs.

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PLIBRICO is delivered only in steel containers of distinctive appearance as shown below.

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FIRE BRICK, FIRE CLAY, PAVING BRICK AND BLOCKS,
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DRAIN TILE, HOLLOW TILE BUILDING BLOCKS,
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"MT. SAVAGE"

"REFRACTO"

"M. S. A."

"CARBURETER"

Capacity 20,000,000 Per Year

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High Grade Refractories

Rolling Mills -- for -- Malleable Iron
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Works at Beech Creek, Pa.; Sligo, Pa.; Freeport, Pa., and Mayport, Pa.

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Fire Brick, Ladle Brick, Fire Clay

Sales Office: 1403 ARROTT BUILDING

THE CAMBRIA CLAY PRODUCTS CO.

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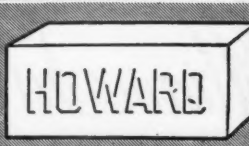
SEWER PIPE - FLUE LINING - WALL COPING
FACE BRICK - FIRE BRICK - FIRE CLAY
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Office and Works - BLACKFORK, OHIO

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Special Shapes—Sewer Pipe—Flue Lining

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Cold Storage Plants

conserve most of the nation's food, and Refrigerating Equipment is the

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To hold proper temperatures constantly install FRICK Refrigerating Machinery and Equipment.

Write for Catalogs.

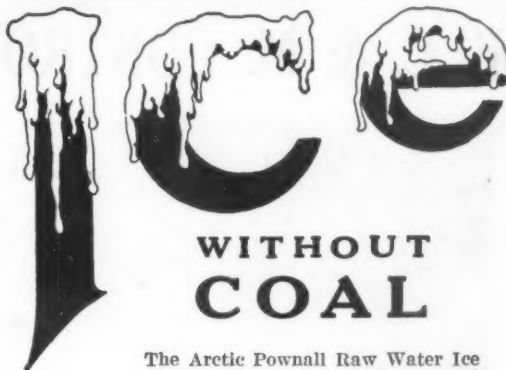
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WAYNESBORO, PA. U.S.A.
ICE MACHINERY SUPERIOR SINCE 1882

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The Arctic Pownall Raw Water Ice Making System makes pure, crystal clear ice, using any motive power.

The ice produced is superior to that made by any other system.

Every block is uniform in size and weight, and the tops are absolutely level.

This system also requires less labor than any other; and while the initial cost is higher, the cost of making ice with this system is far less than any other, consequently greater returns on the investment are assured.

It will pay you to write us.

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Have Perfectly Regulated Refrigeration

With a Baker Special System you could keep temperatures in your plant under minute regulation. The BAKER SPECIAL Refrigerating System is the perfected result of many years of success in the evolution and development of what is today the Best Mechanical Refrigeration Equipment on the Market.

SEND TODAY for Descriptive Literature and Price Estimate.
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Ice Making and Refrigerating Machinery

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Ice and Refrigerating Machinery
CORLISS ENGINES

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The Portsmouth Refractories Co.
General Offices: Portsmouth, Ohio

Factories: Portsmouth, Ohio; North Works; Portsmouth, Ohio; East Works; Firebrick, Ohio; South Webster, Ohio; Monroe Furnace, Ohio.



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This little machine driven by an electric motor will maintain constant low temperature in any cold-storage box or room.

Anyone who can operate an electric switch can operate this system.

The Continental Direct Expansion Freezer for Ice Cream Manufacturers affords the most economical system known for freezing ice cream.

HENRY A. KRIES & SONS CO.
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Southern Distributors for
CONTINENTAL MACHINERY CO.

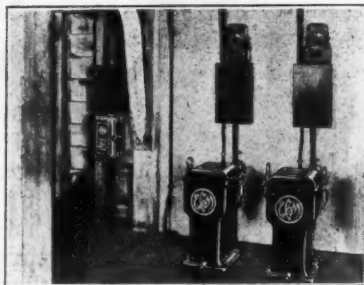
111 W. Monroe St. - CHICAGO, ILL.

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The installation pictures in this advertisement show some of the types of starting devices built by the E. C. & M. Co. and various ways in which E. C. & M. Control can be used.

In the picture to the left a push-button



operated No. 0 Compensator is shown while the picture to the right illustrates two No. 1 Compensators with Overload Protective Panels and a type ZB Starting Switch.

The protective features, protecting the motor against overload, no-voltage and lost phase, are common to all.

Remote control permits the mounting of this apparatus in any convenient place and installation is simple and inexpensive.

For detailed information write to our nearest office for Bulletins 1042-C and 1044

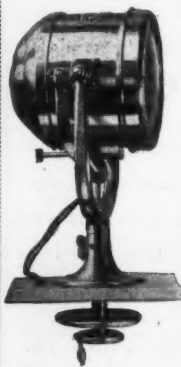


THE ELECTRIC CONTROLLER & MFG. CO.

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CHICAGO-CONWAY BLDG.
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DENVER-GAS & ELECTRIC BLDG.
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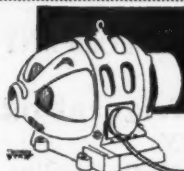
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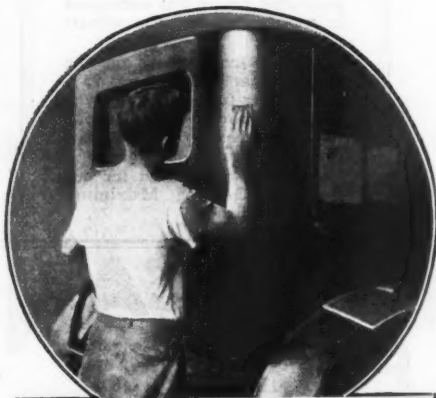
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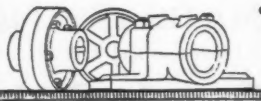
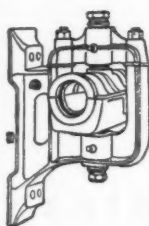
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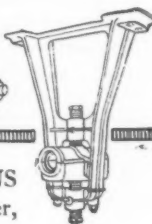
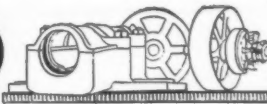
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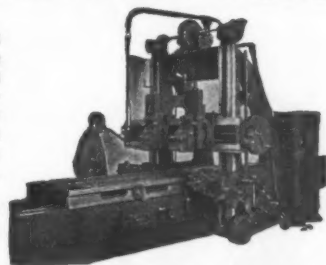
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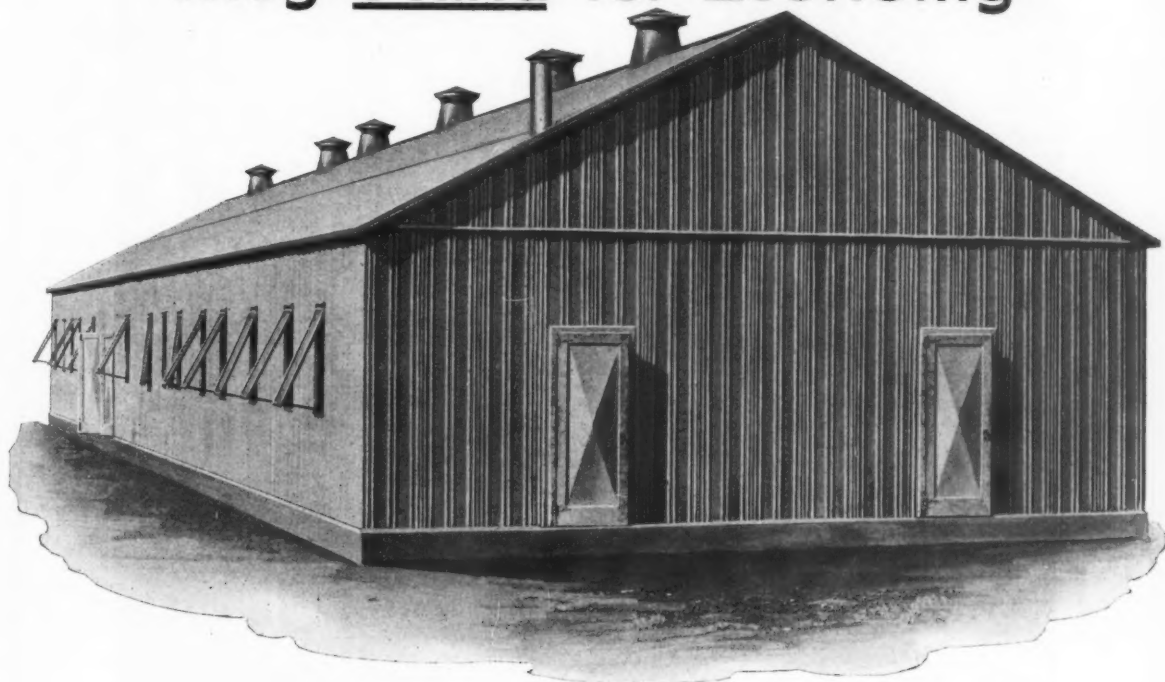
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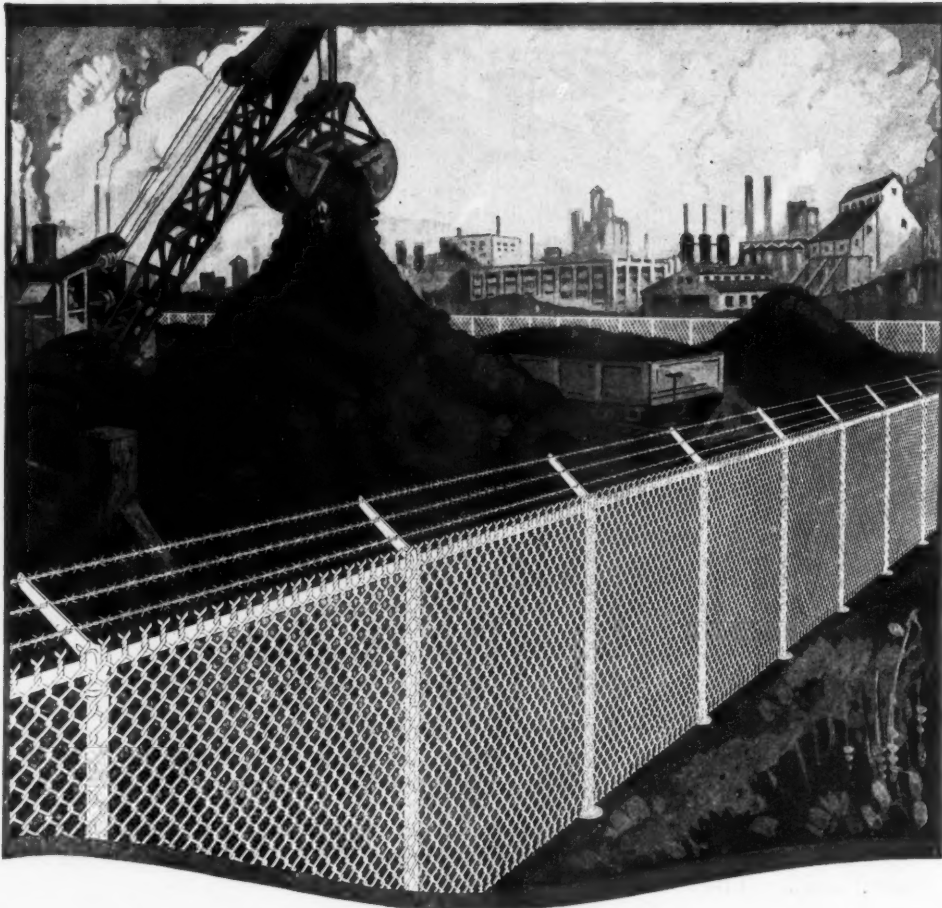
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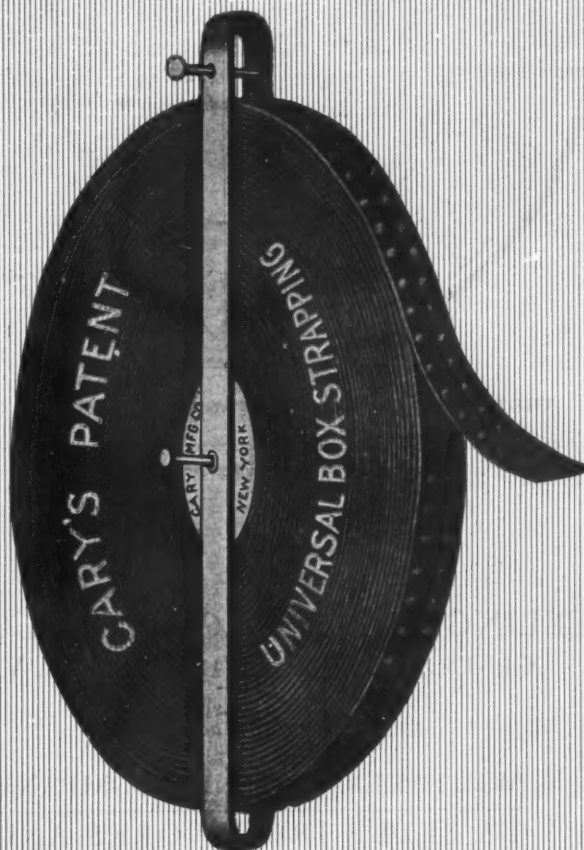
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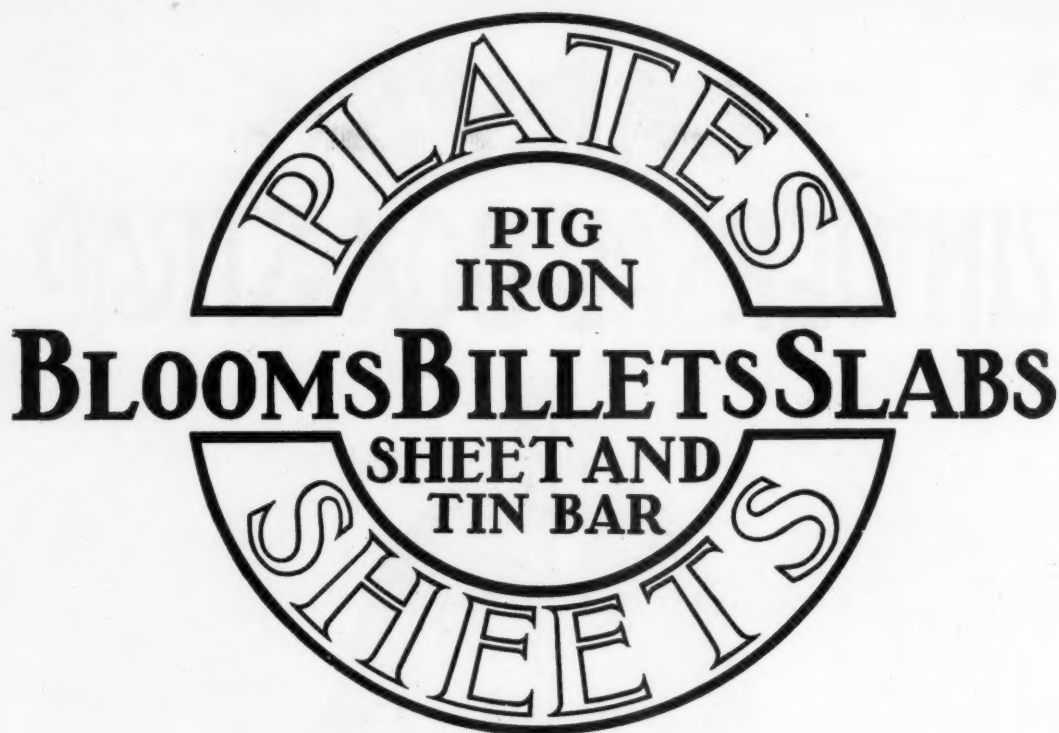


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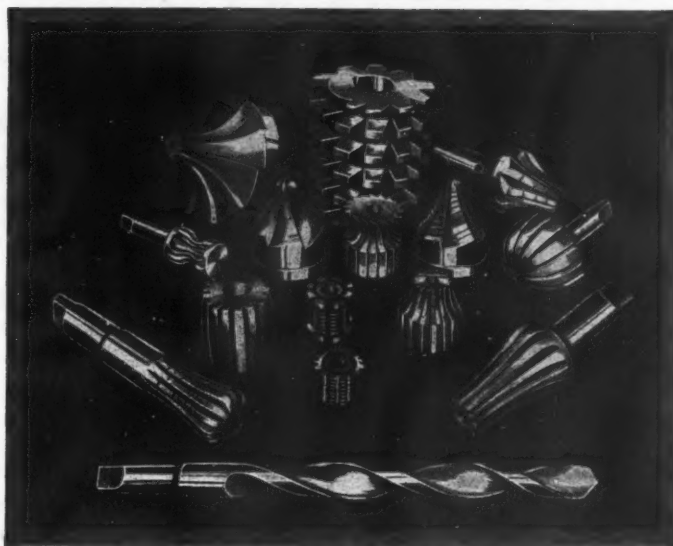
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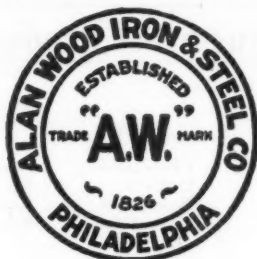
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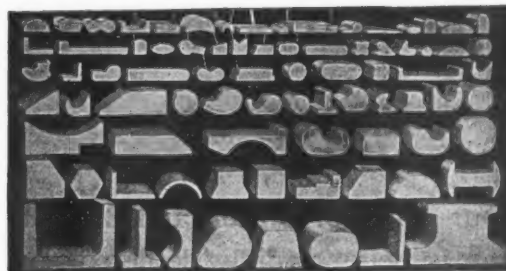


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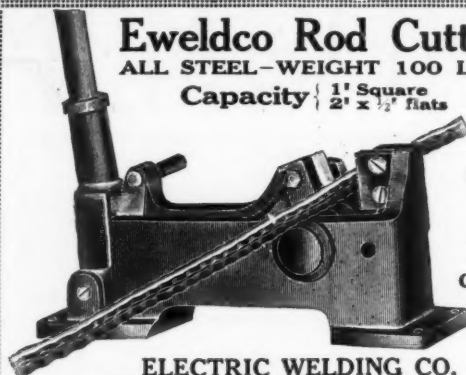
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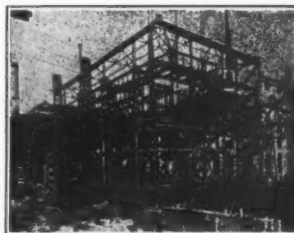
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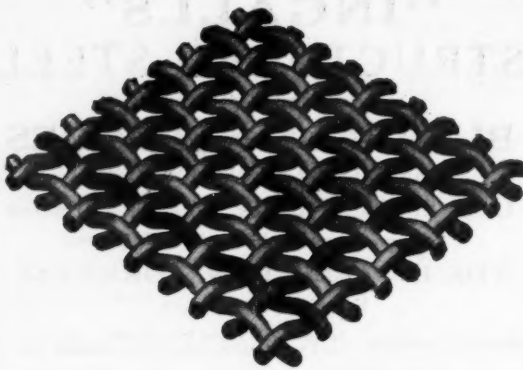
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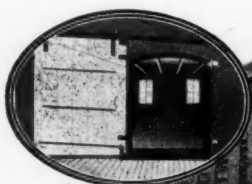
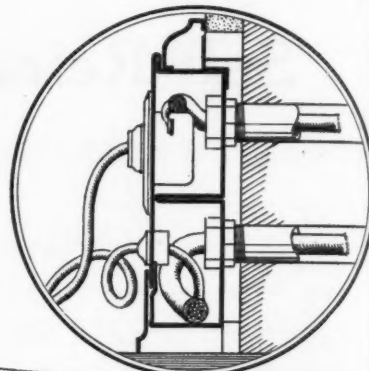
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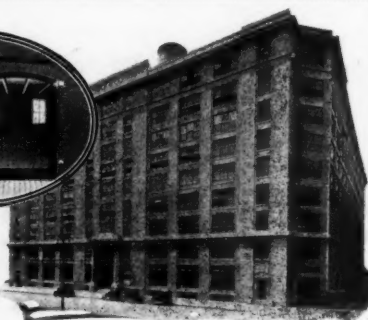
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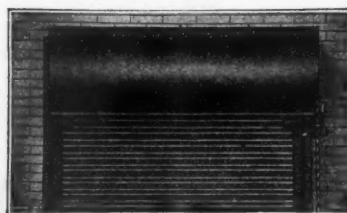
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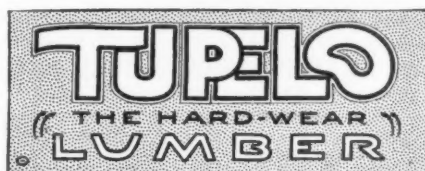
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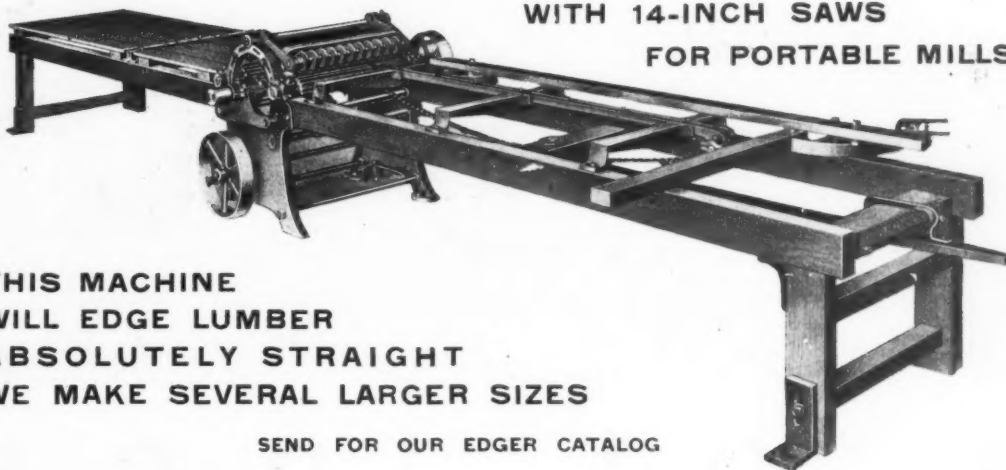
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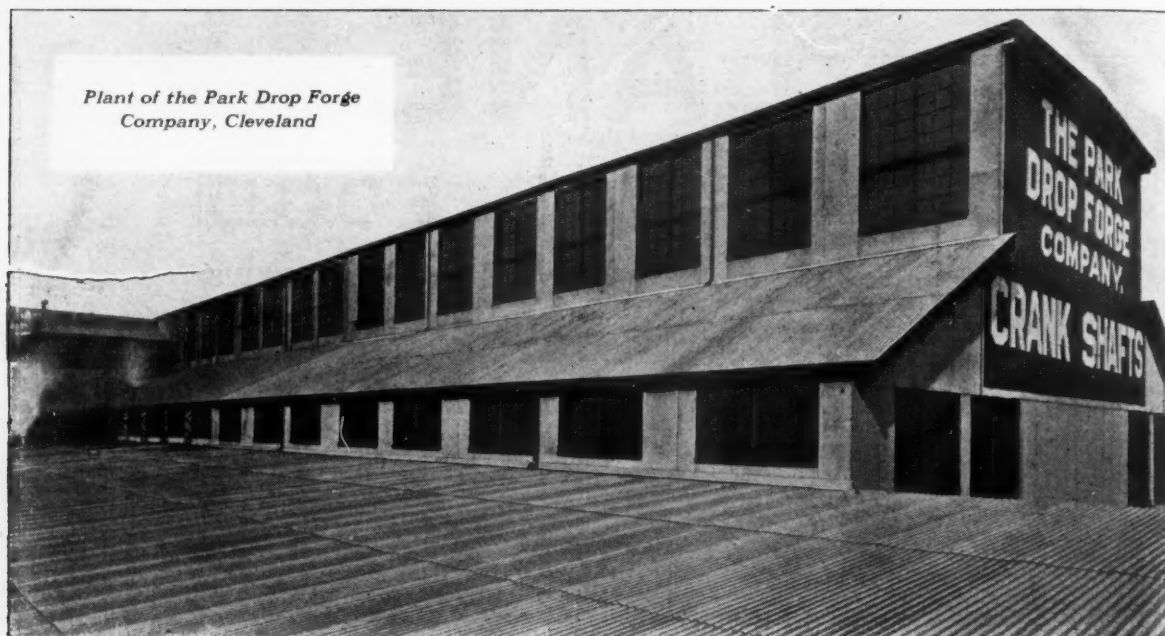
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"I don't understand why Robertson Process Metal isn't in use on every plant in Cleveland." That's what an official of the Park Drop Forge Company remarked recently.

The Park people started using R. P. M. back in 1909. Since then they've ordered it 27 times—convincing proof of the satisfaction this triple-protected metal gives as a building material. For roofing and siding get the "acid test" at the Park plant. They have to withstand severe conditions connected with the manufacture of crank shafts and heavy die castings that destroyed ordinary roofing and siding in two or three years—but not R. P. M. The original Robertson installations are still good after 12 years of hard service.

Whether you're erecting new buildings or renewing old buildings you will find R. P. M. the ideal material for roofing and siding. Many plant owners who are now covering all new buildings with R. P. M., tried it out first on replacement work on old buildings.

Perhaps you're not doing any new building this fall, but there is unquestionably no better time than the present for the making of needed repairs and replacements. Why not make those repairs permanent by using Robertson Process Metal? It can be installed without interrupting plant operations. Robertson engineers will gladly make a thorough inspection of your buildings (with your officials or independently) and prepare recommendations and estimates.

RP ROBERTSON
FOR PERMANENT

TRADE MARK REG. U.S. PAT. OFF.

27 orders for R. P. M. have been received from this company since 1908.



Twenty-seven Times

Metal Protection Gives "Long Run" Economy

Unprotected metal cannot live long under the exposure of weather, smoke, gases and fumes that surround every plant. These destructive elements cannot reach the metal in R. P. M. Every part of the steel is covered—the metal is completely encased by three protective coatings (a) Asphalt, (b) Asbestos, (c) Water-proofing. Its surface and edges are fully protected. Robertson engineers have prepared several instructive bulletins on plant upkeep. Get in touch with our nearest office

and let us show you how depreciation wastes can be effectively stopped.

This partial list of users is significant because of the prominence of the various corporations and because *all of them have used Robertson Process Metal repeatedly*. The date of the original order is shown after each name. Surely experience covering many years usage is evidence of true value in this Robertson Product.

	First Order	
American Car & Foundry Company	1913	7 orders
American Locomotive Company	1913	14 orders
Armstrong Cork Company	1912	30 orders
Bethlehem Steel Company	1910	24 orders
Crucible Steel Company of America	1913	37 orders
Davison Chemical Company	1908	73 orders
E. I. du Pont de Nemours and Company	1909	29 orders
General Chemical Company	1909	119 orders
General Electric Company	1915	10 orders
Hudson Coal Company	1919	37 orders
Jones & Laughlin Steel Company	1913	22 orders
Lehigh Coal & Navigation Company	1914	54 orders
Pennsylvania Lines	1909	104 orders
Standard Oil Companies and Subsidiaries	1912	100 orders
United States Steel Corporation	1908	272 orders
Westinghouse Electric & Mfg. Co.	1916	8 orders

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St. John, N. B., Halifax, N. S.

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Edwards' Metal Shingles are attractive, durable, water, wind and fireproof. There's a design to suit every taste. They are easily laid; the only tools needed being hammer and nails. And the patent interlocking device provides automatically for expansion and contraction.

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Who is the rich man in Squedunk?

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The Ford who believed in the Cheap Automobile

The Field who believed in the Cable

The Johnston who believed in the flat phonograph disk

The Gribbel who believed in the Ladies Home Journal

The Sprout who believed in the Delaware River front

The Rockefeller who believed in the future of oil

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And so on to a whole page full and a whole paper full which you can fill up for yourself.

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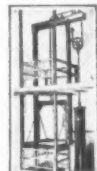
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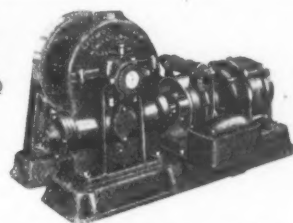
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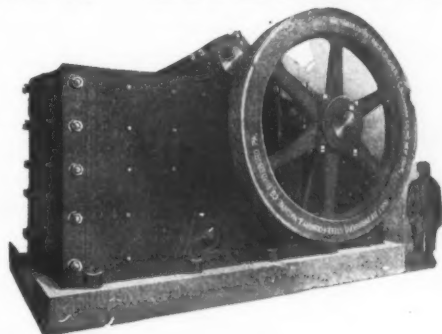
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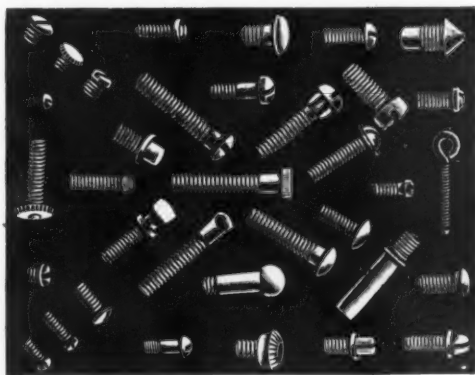
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We build many sturdy types of crushers in a wide range of sizes.

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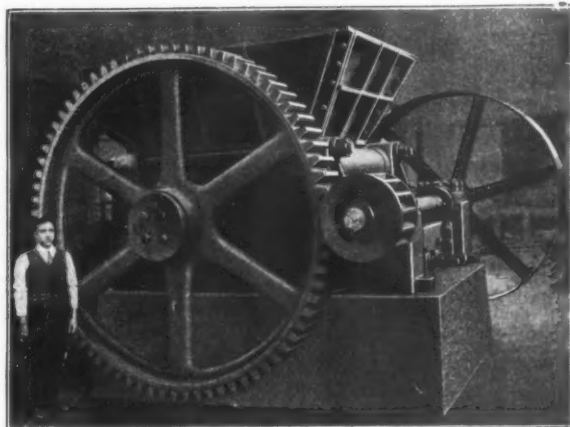
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The steady rise in the price of cotton during the past sixty days will add over \$500,000,000 to the purchasing power of the South and will probably go far beyond that figure.

This means that a vast amount of money will be turned loose in the Southern States.

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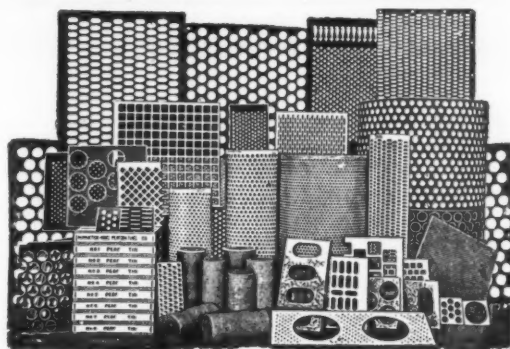
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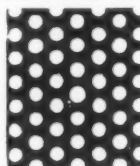
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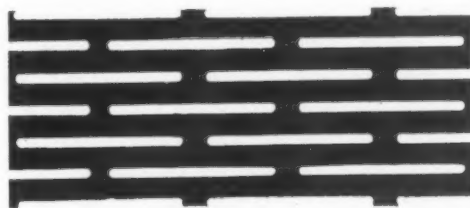
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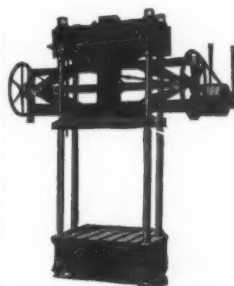
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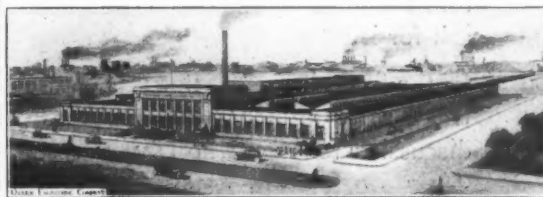
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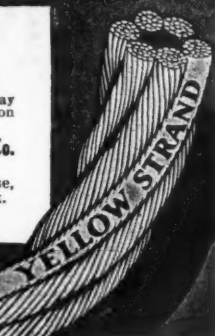
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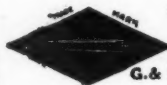
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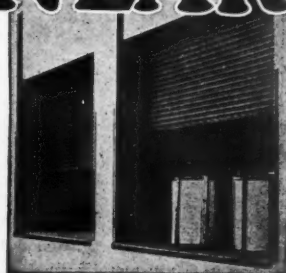
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RICHARD H. EDMONDS, President VICTOR H. POWER, Treasurer
FRANK GOULD, Vice-President I. S. FIELD, Secretary

RICHARD H. EDMONDS, Editor

BRANCH OFFICES:

CHICAGO, 11 So. La Salle St. NEW YORK, 30 Church St.
ST. LOUIS, 915 Olive St. BOSTON, 734 Old South Bldg.
WASHINGTON (Whaley-Eaton Service), 456-459 Munsey Bldg.

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THE SOUTH LEADING TO NATIONAL PROSPERITY.

GEORGE H. HARPER
Representing
National Enameling & Stamping Co.
Baltimore, Md., October 3, 1921.

Editor Manufacturers Record:

I have just returned from a business trip to the West and South, and especially in the South optimism was my companion traveller. On every hand there were messages of cheer, because cotton at 25c is better than cotton at 10c, and they all agree that they have less to worry over now than they had six months ago.

A system started in the South, that carried with it words of common sense, was the exchange policy. The hardware jobbers commenced to exchange things last December, and later on jobbers in other lines followed—not only in the Southern states, but jobbers in the Northwest adopted this policy.

Since the time of the Civil War the South has had many mighty days, but they have always come to the front with live men—men ready to fight to make business good. That is all there was to it. And these big Southerners are going to make business just what it should be in 1922.

Yours cordially,

GEORGE H. HARPER.

The spirit of optimism as to the increasing prosperity of the South, voiced in the foregoing letter from Mr. Harper, who has for many years been intimately identified with Southern business activities, is the same spirit which we hear from all parts of the South and those identified with Southern interests.

The tide has turned. The South takes the lead back to prosperity. It was harder hit than any other section, it had a greater burden to bear, and it did not have the accumulated wealth of other sections; but with indomitable spirit it determined to win against odds. It has won, and every business man in America ought to rejoice not only in the prosperity of the South, for that means national prosperity, but rejoice that this great section of our common land is leading the business of the country out of the Slough of Despond to the Hill of Prosperity.

A WARNING—IN THREE MONTHS OUR EXPORTS OF WHEAT HAVE EXCEEDED OUR TOTAL SURPLUS FOR TWELVE MONTHS

IN the Market Reporter of October 1, the Department of Agriculture states that Russia, which before the war annually exported 160,000,000 bushels of wheat, may be an importer of wheat to the extent of 40,000,000 bushels this year, and likewise that India, because of a crop shortage, instead of exporting wheat will be an importer of wheat this year. A statement of utmost significance in this report is that the United States may already have reached the limit of its exportable surplus of the present wheat crop.

Wheat production in 1921 in the principal exporting and importing countries, not including Russia, was approximately 2,787,000,000 bushels. This production is 4,000,000 bushels smaller than the average production during the five-year prewar period 1909-1913. It is 173,000,000 bushels greater than the 1920 total for the same countries. However, because of Russia's condition, being an importer instead of an exporter, the amount of wheat available for the importing countries is 200,000,000 bushels less than was the case during the prewar period.

The question is asked, how much wheat can the United States spare during the present crop year ending June 30, 1921?

The quantity of wheat on hand, or the carry over, July 1, 1921, was estimated at 79,000,000 bushels, which is fairly comparable with the average before the war in years of normal crops, and it is assumed that approximately the same quantity will be on hand at the close of the crop year to be carried over in the next year. This quantity, it is pointed out, cannot be included in the exportable supply. Therefore, the crop harvested this summer constitutes the available supply for bread and seed and export, unless importations are made. The crop was estimated on September 1, at 754,000,000 bushels.

The per capita requirements for bread and seed in the United States are estimated at from 6 bushels to 6.45 bushels. Taking the lower figures of 6 bushels per capita, the quantity of wheat required, estimated on the basis of the present population, is 636,000,000 bushels. Deducting this amount from the crop total gives 118,000,000 bushels as the exportable surplus for the present crop year. During July and August, this year, exports of wheat and flour amounted to 97,000,000 bushels expressed in wheat, and by adding the September exports of approximately 30,000,000 bushels, we have in three months shipped away in the aggregate 127,000,000 bushels of wheat as against our total estimated surplus for this purpose of 118,000,000 bushels.

Under these conditions, the Department states that it is obvious that the minimum per capita consumption of 6 bushels of wheat cannot be retained if any more wheat is to be exported. To put it bluntly, if we ship away any more wheat without importing as cheap or cheaper wheat in proportion which is highly improbable, the country will be short of wheat and bread will be high.

HEAVY INCREASE IN COTTON EXPORTS.

IN an interview in the New York Times upon his return from Europe former Postmaster General Burleson, who went to Europe for the purpose of trying to sell American cotton, explained his reasons why it was difficult to sell cotton in Europe at the present time. In the introductory notice to his interview the Times says:

"He went to sell cotton and failed because of several reasons which he explained to the reporters at the pier."

The story was told amid the gossip of Washington that shortly after the war Postmaster General Burleson, in an audience composed of men and women, stated that too much had been claimed for woman's work in the war. The women did not, said he, according to this gossip, accomplish as much as they are claiming credit for, and the story says that one bright woman retorted with the statement: "Mr. Postmaster, you do not seem to understand the females of America any better than you understand the male."

The story may be wholly a fabrication, but its import would very admirably fit in with Mr. Burleson's lack of knowledge of cotton sales to Europe. He says he found the entire situation a desperate one. Evidently Mr. Burleson was not a good salesman, and likewise evidently he knew very little of what was going on in the world's cotton trade, for it is a noticeable fact that during the last few months cotton exports have taken a rapid jump as compared with the same period last year.

From January up to and including April of this year, the number of bales of cotton exported steadily decreased each month, dropping from 606,202 bales in January to 319,933 bales in April. But beginning with May the exportation of cotton has rapidly increased. The total amount exported for the four months from May to August inclusive was 1,995,432 bales as compared with 964,863 bales for the corresponding four months of last year. The exports for the four months from May to August 1921 as compared with the corresponding period of 1920 were as follows:

Cotton exports in bales, May-August inclusive, 1920 and 1921.

	1921.	1920.
May	477,389	364,904
June	495,590	241,449
July	527,323	211,841
August	495,130	146,688
	1,995,432	964,862

"TEN CENT A DAY LABOR."

TEN cent a day labor in the Orient has caused another great manufacturing enterprise in this country to plan to transfer its plant from America to Calcutta. The American Manufacturing Company, for years one of the leading industrial concerns in the country, making jute bagging, rope and other products, employing in the aggregate about 5,000 hands, with plants in the North, South and West, announces that it is now building a plant in Calcutta for the manufacture of the bagging which has heretofore been made in this country. The officials of the company are quoted as saying that the workers in the jute mills in India are now receiving from 10c to 15c a day, but that this is regarded as an inflated war rate of wages, which will probably be subject to reduction when conditions become normal.

And yet there are some people in this country who believe that we should have no tariff to protect us against the products of ten cent a day labor! The very day on which this is being written a free trade banker protested to the writer against any tariff which would keep out of this country the cheap products of other countries. He took the ground that wages must come down to meet relatively the wages of other countries, and the cheaper we could buy foreign products the greater would be our prosperity. That is as false a basis for broad national prosperity in America as it is possible for the human mind to conceive.

WHAT IF FARMERS RECEIVED RAILROAD EMPLOYEES' RATE OF WAGES?

COMMISSIONER Mark W. Potter, of the Interstate Commerce Commission, in seeking to find the effect upon the Minnesota farmer's costs of producing grain if he were allowed the same earning per hour for labor as is paid to railroad employes, requested M. O. Lorenz to examine the exhibits of F. W. Peck which presented tabulated data to illustrate the comparison of wages earned by farmers and railroad employes in Minnesota.

In reply, Mr. Lorenz submitted the following:

"According to our latest wage statistics, the average earning per hour of all classes of railroad employes in the first half of this year was 69.9 cents. Deducting 12 per cent on account of the recent reductions authorized by the Labor Board, the present earning per hour may be taken at 61.5 cents. Approximately it took one hour of man labor to produce a bushel of wheat. The rate paid was 25 cents per hour. To have paid 61.5 cents per hour would have increased the cost per bushel 36.5 cents.

"The present average freight charge on Minnesota wheat is about 13.36 cents a bushel. To enable the farmer to pay his labor in producing wheat the average railroad worker's earning per hour by a reduction in freight rates, would require a canceling of the entire freight charge and in addition a bounty from the railroad company to the farmer of 23.14 cents a bushel. If the time and a half for overtime were allowed to the farmer, the bounty would have to be increased. To pay the average railroad wage in the case of corn would require 23.72 cents per bushel. In this case the bounty would be 12.79 cents per bushel."

The following tabulation is compiled from Mr. Peck's figures showing the necessary farm prices of wheat, corn, oats, and hay to pay farmers various rates of wages comparable to wages of railroad employes.

	Minnesota, 1921.			
	Wheat (bu)	Corn (bu)	Oats (bu)	Hay (ton)
Range of prices received by farmers in July and August..	\$.90—\$1.14	\$.36—.40	\$.22—.26	\$12—\$13
Cost if farmers received freight engineer's wage of \$1.02 an hour.....	2.34	1.15	1.13	20.16
Cost if farmers received switchmen's wage of 72 cents an hour	2.04	.96	.97	17.16
Cost to farmer with labor at .25 cents per hour and 5% allowed for use of land.....	1.57	.66	.74	12.46

PROSPERITY IN GERMANY.

A DISPATCH from Berlin says that the cotton mills at Mittweida have made a profit for the past year nearly five times as great as the total capitalization, and which is said to break all records for profits on any industrial business in Germany. After writing off a special factory maintenance fund of 10,000,000 marks or double the total capitalization, and 2,000,000 marks for pensions, the company declared dividends of 75 per cent. Some people think that Germany is not prospering, but these facts, taken from a special dispatch to the New York Sun, indicate something of the industrial conditions prevailing in Germany.

Mr. Alejandro Berea, Consul General for Spain at New York, in a letter to the MANUFACTURERS RECORD referring to a recent article in this paper entitled "Meaning of the Spanish-Moroccan War and Its Relation to the World's Iron Ore Supply," says that he has found the article very interesting and accurate.

"PROFITEERING IN MONEY" A GREATER MENACE THAN ALL OTHER PROFITEERING.

MR. W. C. DURANT, president of the Durant Motors, Inc., of New York, whose views against some of the methods of the Federal Reserve Banking System we recently published sends us the following striking statement in presentation of his opinion that the trouble with the country as to business at present is the "profiteering in money" which has been rampant under the leadership of the Federal Reserve Board.

"Profiteering in Money", carried on with the full knowledge of the Federal Reserve Bank, is responsible for present business conditions is Mr. Durant's view. He charges that the Federal Reserve Bank is permitting the assessment of outrageous commissions and bonuses against solvent concerns for the use of money to carry them through the readjustment period.

This statement was made in answer to the query "What is the matter with business and what is the remedy?" asked Mr. Durant by a financial writer. The remedy he suggests is that money and credit for legitimate business be made available immediately in generous measure, and that the discount rate of the Federal Reserve Banks be reduced to 3 per cent. His statement follows:

"There are many contributory causes, but the trouble, and we are in real trouble, is largely financial. Regardless of reports to the contrary and cheering articles appearing regularly in print, business is not good.

"The bankers of the country have for months past been in a 'state of mind', the attitude of the Federal Reserve Bank, with respect to discount rates and extension of credits being very largely responsible for it. We have for months past been enjoying (?) a 'bankers' panic', and until this panic has run its course nothing that the business men of the country can do or say will improve the situation.

"Our merchants and manufacturers, who are today struggling with the problems incident to this trying period of readjustment, need encouragement and fair treatment, and the bankers who hold the key to the situation should and must take the initiative.

"We cannot hope for better times until money for legitimate business, not speculative purposes, can be obtained at reasonable rates, and credit, where properly safeguarded, is available in generous measure.

"The Federal Reserve Bank at this critical time should encourage, rather than discourage, the extension of credit and should reduce its discount rate to 3 per cent. Quick, decisive, courageous action on the part of the Federal Reserve Bank would, in my opinion, very materially improve the situation, would hearten our business men and set in motion the wheels of commerce and industry.

"For the purpose of relieving the pressure in times of stress, and preventing money panics, the government created the Federal Reserve Bank. It is a well known fact that high grade, progressive, solvent concerns in need of money to carry them through the readjustment period have been paying most outrageous commissions and bonuses for the accommodation (in some cases the terms have been almost confiscatory), while the Federal Reserve Bank, with full knowledge, stands idly by and permits this outrageous profiteering to continue.

"The Federal Reserve Bank has the power to stop profiteering in money, and its failure to do so is very largely responsible for the general business paralysis, the surrender of many of our splendid industrial institutions to the greedy money vultures resulting in the present condition of discontent, unrest, and its resultant vast army of unemployed."

The views expressed by Mr. Durant are in entire harmony with the situation as seen by the MANUFACTURERS RECORD for the last two years or more.

The management of the Federal Reserve Banks taught the bankers of the country the possibilities of profiteering.

Earning from 150% to 200% or over annually, as the twelve Federal Reserve Banks have done, they stimulated the cupidity of every banker in the country; and while some bankers have recognized their moral responsibility to deal justly with the public and with their customers, a very large

proportion of the bankers have been following the example set by the Federal Reserve System.

"Profiteering in money" has far exceeded all the profiteering that took place during and immediately after the war in retail trade or in any other line of industry. A Texas banker expressed it by saying that other industries had had their chance and now the bankers proposed to have their inning, and he proposed to charge accordingly.

A West Virginia county, whose ability to pay is unquestioned, will have money available on January 1 to pay for road work now being done. To discontinue the work until next spring would have cost more than to pay at the exorbitant rate of 32% per annum, demanded for the use of money, or 8% for a three month's loan. Many of the large trust companies do not seem to consider making a loan of any importance unless they get a big commission in addition to the rate of interest charged. Many bankers throughout the country are charging rates which would have shamed Shylock and made him regret that he had not lived in the United States at the present time if he could have foreseen what is now going on.

Comptroller Crissinger, in his address before the bankers of Los Angeles, warned the country against these methods; but more than a warning is needed.

The Federal Reserve System must inaugurate the campaign for low rates, and in some way there must be a distinct arrangement by which banks shall not be permitted to charge more than a reasonable rate, and that without any commission or discount put on for the purpose of avoiding the law against illegal rates of interest.

The writer of this once sat in a meeting of the directors of a great financial institution in a state where the legal rate of interest was 6%, and staid, sober bankers and bank directors, who thought they were honest, discussed the question as to whether on a particular loan they could safely charge 5% commission; and when warned against the danger of violating the law and thus possibly losing all interest, they argued that the borrower would never dare to make a fight against the payment of the 5%, illegally charged to him, because he would be afraid that he could never borrow again from them or any other banker whom they might inform. This argument was advanced by men of standing in the community, who posed as business and moral leaders!

That is the spirit which has prevailed in many a banking board, and it is becoming more and more prevalent under the example of the Federal Reserve Bank System. We warn the bankers of this country that they are riding for a fall; that they are sowing dragons' teeth; that they are sowing the wind, and as sure as the sun rises they will reap the whirlwind of destruction if they do not change their tactics. When once this country has become thoroughly aroused to the situation—and the people are very rapidly waking up to it—there will be such a fight against the whole banking methods of the country, and against the Federal Reserve System itself, as to shake to its very foundation the existence of this Government. The fight made by Andrew Jackson against the tremendous power of the United States Bank of that day, and the fight made in 1896 by the free silver people against the gold standard, are only slight hints of what the bankers of the country will have to face unless they change their methods.

A few days ago the Charlotte, N. C., Observer in an editorial defending the Federal Reserve Board, stated that its power had been so effective that with 30,000 banks in the country only about 150 had failed during the present depression. But it did not tell that tens of thousands of business institutions, managed by men equally as great in ability and integrity as the bankers of the country, had gone down in ruin because of our banking methods. It did not tell that though comparatively few banks had failed, millions of farmers had

seen every dollar of their accumulations swept away from them under a system which saved the banks but which brought on the greatest commodity panic known in the history of the world.

We have been trying to awaken the banks of the country to the danger of this situation. Unless great leaders, with vision of what is ahead, with knowledge of the forces that are at work, of the unrest that is abroad, of the criminality of the "profiteering in money" which is everywhere in evidence, shall stem the current and call the bankers of the country to sanity, to honesty and morality, and to common sense, the fight which will be made against the entire banking business, with all of its wide ramifications as it now exists, will surpass anything which the banking fraternity has ever had to meet.

For the good of the country, for the safety of its financial interests, for the preservation of honest banking, the MANUFACTURERS RECORD warns again and again that the mismanagement of the Federal Reserve System, its "profiteering in money" beyond any profiteering ever previously known by great banking institutions, and the influence which this has had in destroying prosperity of business, while teaching profiteering to the banking fraternity, menaces our country's future.

Business men will not have confidence until there is a radical change in the management of the Federal Reserve System and in all banking interests. They are afraid to venture into new enterprises, afraid to broaden their operations while the power of the Federal Reserve Board holds in its grasp the life or the death of every bank in the country, and the banks hold the life or death of every business in the country in their grasp.

Business men are afraid to voice their feelings; they are afraid of the power of the banks, and afraid of the tremendous power of the Federal Reserve System in dominating the banks and inflating or deflating credit whenever its ruling powers so desire. But some day the storm will break.

President Harding has it in his power to lessen that storm, perhaps even to prevent it, by a thorough elimination from public office of the men who set the example of "profiteering in money" as managers of the Federal Reserve Board and the men who at the head of the Federal Reserve Banks joined in the campaign and piled up what may justly be called the "ungodly profits" of Federal Reserve Banks, stimulating the cupidity and justifying in their mind the profiteering of other bankers.

HIGHER INTEREST ON MUNICIPAL BONDS.

THERE is an increasing disposition on the part of cities, towns and counties in the South and Southwest to issue public improvement bonds bearing a rate of interest greater than 5 per cent, which was the limit for some years, this maximum rate in sundry instances being fixed by law. Sutherlin, Barry & Co., Inc., dealers in municipal securities, 812 Gravier Street, New Orleans, La., write the MANUFACTURERS RECORD that they recently purchased an issue of \$950,000. of 6 per cent bonds of the city of Monroe, La., which will mature serially from 1924 to 1960 inclusive and continuing they say:

"As far as we can ascertain this is the first 6 per cent bond to appear on the market. The new Constitution of Louisiana authorizes the issuance of bonds bearing interest at a rate not exceeding 6 per cent, whereas heretofore the interest rate has been limited to 5 per cent."

It will, of course, be understood that the firm's references to the "first 6 per cent bond," etc., apply only to municipal bonds and doubtless to bonds issued in their State since the new State Constitution was adopted, for other 6 per cent municipal bonds have been voted elsewhere, Oklahoma City, for instance, having issued this summer \$100,000, of

6 per cent bonds which are now being offered to investors by bond houses that purchased them from the city. A number of other places have also voted 6 per cent bonds, and at Birmingham, Ala., 7 per cent public improvement bonds to the amount of \$115,500 have just been sold to a large buyer of such securities.

This increase of the interest rate on municipal bonds must necessarily increase their popularity with investors and consequently establish a greater readiness to bid for them on the part of bond buying houses, so that plans for making public improvements will be advanced and the general public welfare will benefit by the consequent distribution of money for materials and labor.

WHICH WAY WILL HE DECIDE?

SENATOR Hefflin of Alabama, who comes from the same State as Governor Harding of the Federal Reserve Board, in an address in the Senate a few days ago very rightly charged the Republican party with responsibility for retaining in office the members of the Federal Reserve Board who caused the breaking down of the business interests of this country, and referring to the work of the Federal Reserve Board in forcing banks to call loans on Government bonds which had been bought through the banks and on the promise of the banks that they would be carried, he said:

"The party of the Senator from Utah (Mr. Smoot) is holding that Federal Reserve Board in authority today after it has lost the confidence of honest business men in the South and West. That board sits there, a part of the Republican administration, and when the Republican Party holds it in power it endorses its acts. By retaining that board in power you place the stamp of your approval upon its conduct. And you do so in the face of the fact that that board's deadly deflation policy robbed the South and West of billions and billions of dollars."

The MANUFACTURERS RECORD, in personal correspondence and through its editorial columns, has repeatedly said to the present administration and to every member of the Cabinet that confidence in business and in the Federal Reserve System could not be restored so long as the men responsible for breaking down confidence were continued in office.

We again urge upon President Harding that he recognize that the maintenance in office of the governor and vice governor of the Federal Reserve Board is a direct slap in the face to millions and tens of millions of people in this country, and so long as they hold those positions the people of America cannot have confidence in the honor and integrity of the Federal Reserve System, nor confidence in the administration which permits them to remain in office. If they are much longer continued in office the next presidential battle will be fought on the issue as to whether the Federal Reserve System is to live, or whether it is to be completely destroyed.

President Harding has this grave responsibility in his power to decide for good or for evil.

A CORRECTION.

LAST week in the editorial on the digest of the fourteenth census, showing the agricultural progress of the country and the South's relation thereto, in the table of the increase between 1910 and 1920 of farms and farm property, the percentage figures were misplaced. The table should have read as follows:

Increase between 1910 and 1920.		Per cent Increase
Number of farms	86,864	1.4
Land in farms (acres)	76,878,220	8.7
All farm property	\$36,934,539,963	90.1
Land alone	26,427,779,756	92.8
Buildings	5,105,404,103	80.7
Implements and machinery	2,230,167,238	184.2
Live stock	3,071,188,886	62.4

THE FREIGHT QUESTION FROM TWO POINTS OF VIEW.

CHARLES S. FAY, Traffic Manager of the Southern Pacific Railway, in a further discussion of the rate situation, following his letter published recently, writes:

"In your letter you refer to two letters in the issue of August 25th from lumber people in the south, bearing directly on the question of freight rates. One of these, from Mr. J. H. Townshend, is most unfair, because as Mr. Townshend states, conferences have been held with the carriers and the hardwood lumber interest, and at the very first of these conferences in Memphis, Tenn. the railroad representatives asked the shippers present whether or not they seriously believed that any reduction in freight rates would make any material increase in their sales and it was practically the unanimous opinion of those present (and the representation was a good one) that it would not have that effect. Conference with the southern pine people about the same time or a little later resulted in very much the same situation.

"While we admit that the lumber business is in a state of serious depression and there is hardly a lumber manufacturer in the south today that is doing better than swapping an old dollar for a new one, our friends in the lumber business must remember that for sometime prior to our entrance in the war and for some months subsequent thereto, the prices that they obtained for lumber were phenomenal. They talked about it among themselves in bated breath and agreed that such a condition could not last always. Now I am not complaining that they were able to obtain these prices; on the contrary, am glad they could do so. The price was fixed by the law of supply and demand, and I believe they were fully justified in the prices that they then obtained, but the fact remains that during that considerable period they did get the money, at which time the railroads were held down in their earnings to the pre-war basis, covering a period of three years, which were only moderately remunerative. I do not know of any business or industry which had anything to sell during the period described that did not make enormous profits except the railroads, and it does seem to me to be such bad taste for those shippers who profited to such a great extent by the conditions then prevailing, to complain of rates at present in existence which, although high as compared with former times, are not yielding the carriers anything like the return upon their investment, that even the government thought they were entitled to. In other words, the action of the government in taking over the railroads absolutely prevented their profiting by the abnormal war-time conditions when every other industry in the land was reaping enormous profits. At the present time industries, generally, including the railroads, are suffering from the conditions incident from the war.

"I do not presume that you will disagree with any of this, but that you are of the opinion that the carriers should reduce present rates and that such reduction would not only be of benefit to industries, generally, but to the carriers themselves. If the carriers could only be persuaded that a reduction in rates would have this result it would not take long to bring it about, but years of experience tell them that the result will only be to deplete the already diminished revenues. I have in mind one case where the rates on blackstrap or feed molasses were reduced to the middle west for a specific period on the continued assertion of the molasses shippers that it would result in largely increased movement. These rates were established on June 10, 1921 and to expire on September 30, 1921. The increased business did not materialize, and the shippers are now requesting that the rates be extended indefinitely. The little business that has moved in the interim, of course, has been moved at reduced rates, and it undoubtedly would have moved without the reduction, so that if this experience has not actually cost carriers revenue, it has not increased their revenue, and I believe it is safe to say in practically every case where reductions in particular rates have been asked for, and there was any apparent reason for believing that revenues could be increased thereby, that reductions have been made and the results have been disappointing.

"I hope you will not gain the impression from what I have said that it is my view that rates should always be held up to the present level; to the contrary, I believe whenever conditions permit there should be general reductions in the rates just as there have been general advances, but certainly conditions do not justify that action at the present time. If the efforts of the shippers of the country could only be concentrated with a view to reducing the expenses

of the carriers, as soon as that was done it would undoubtedly be possible to reduce the rates, and I believe the MANUFACTURERS RECORD, who wields so large an influence, can assist in bringing this about."

That portion of Mr. Fay's letter referring to statements made by Mr. J. H. Townshend published by us some weeks ago, was sent to Mr. Townshend, who is Secretary-Treasurer of the Southern Hardwood Traffic Association with office at Memphis, Tenn. In reply Mr. Townshend writes:

"I have read with a good deal of interest what Mr. Charles S. Fay, Traffic Manager Southern Pacific, had to say with respect to the letter by myself which appeared in your issue of August 25.

"For your information, at the meeting on March 15, to which he refers, Mr. Fay arrived too late to attend the conference. He was in my office two hours after the conference adjourned, but, fortunately, we kept a record of the meeting, and I desire to quote briefly from the record:

"Mr. Walker L. Wellford, one of the largest cooperage manufacturers in the United States, said:

"This meeting is to discuss with you frankly some problems of mutual interest which are bearing heavily upon us in the marketing of forest products since the last general advance in freight rates. I say these are problems of mutual interest because the movement is restricted, or the movement of lower grades of forest products prevented, by the present level and adjustment of rates. The result is reflected as surely in your net operating revenue as it is reflected in the operations of the industry.

"We have already reduced our operating cost through a reduction in wages, more efficient work, and in many other ways, so we can hardly hope for any other reduction in the cost of operation; therefore, the only possible solution of the problem is by reduction in freight rates that will place our commodities in the consuming markets of the east.

This reduction, I am confident, would stimulate business and assist us in shipping many of our low grade products which are not now moving, so I trust you will give most careful consideration to the facts, etc.

"Mr. James E. Stark, president of James E. Stark & Company, one of the largest operators in the South, said:

"The present cost of transportation is such that we can not move our low grade lumber on it, which means that we have to leave in the woods 40 to 50% of the stumpage that prior to the advance in rates we were able to move, which means that the railroads lose the tonnage represented by the lower grade logs, and in some cases now the No. 3 common lumber which has been accumulating is used for fuel wood under the boilers, as it cannot be handled profitably for shipment to consuming markets!"

"As a matter of fact, every manufacturer who spoke at that meeting was of the opinion that a reduction in rates would increase the volume of tonnage, and thereby increase the carriers' revenue.

"Mr. F. B. Bowes, Vice President of the Illinois Central asked the question:

"If we should reduce our rates 25%, would you guarantee to increase your shipments 33-1/3%?"

"Mr. Wellford replied:

"No, we could not give such a guarantee."

"Mr. Bowes stated:

"Then, we cannot entertain your proposition."

"Thank you for the splendid fight you are making on behalf of the manufacturers."

We are publishing this correspondence in order to let the public see both sides of this important question.

The MANUFACTURERS RECORD is thoroughly convinced that a drastic cut in freight and passenger rates is essential to the prosperity of the railroads and of the country. Passenger travel, including Pullman service, is entirely too expensive for the good of the roads or the good of the public. No business interests can send their traveling men over the country, stirring up business with as much freedom as formerly under the expensive rates for passenger and Pullman service, such as they now have to meet. The commercial traveler and the tourists are invaluable for the railroads themselves and for the country. They bring the people of

Per cent
Increase
1.4
8.7
90.1
92.8
93.7
134.2
62.4

all sections into closer touch and it should be the policy of the railroads to encourage travel of this kind to the utmost extent just as they formerly did. Present rates are almost prohibitive, and certainly we do not believe that they can be wisely defended. The same thing is true of freight rates.

A CHALLENGE TO THE RAILROADS OF THE COUNTRY.

A LARGE gravel shipping company in a letter to the MANUFACTURERS RECORD, discussing the question of the limitation of business by reason of high freight rates, writes as follows:

"The difficulty about shipping our gravel to that territory was brought out very clearly a few days ago, when a friend of ours in the northern part of Louisiana requested a price on our material, and upon investigation we found that the freight rate would amount to something over \$9 per ton. We are selling the material f.o.b. our pit at 40c. per ton.

"I have visited during the past 12 months 16 gravel pits, am more or less familiar with their operation and know that none of them, including ourselves, are making any progress whatever, due primarily to the excessive freight rates on this class of material. The gravel in our territory moves in train load lots, and the net return on freight cars is three or more times as much as on any other material, this because of the fact that it is short haul stuff.

"We are spending much time and money in an effort to show the railway people that they are standing in their own light with these high rates."

The question which the railroad people can well afford to ask themselves is whether the hampering and restriction of business, passenger and freight, by the present exorbitant rates is not a direct handicap to the development of their own business, while they must admit that it is a direct encouragement to hostility on the part of the public to all railroad operations.

We venture the assertion that the Government will not take over the ownership of American railroads, unless it should some day do so at a price which would mean almost confiscation based on the present estimated values. Some railroad managers have been preaching that unless this, that and the other is done, railroads will pass into government ownership. We have not the slightest doubt that many railroad owners would gladly turn their roads over to the Government provided they could get what they might class as a fair price based on the cost of reproduction, but we do not believe that this will come about. The people of the country at large are not going to have the railroads unloaded on them on any basis which would yield even a fair price to present security holders. Let that fact sink deep into the hearts of railroad owners. The men who have seen their farms depreciate in value and the expected profit on their products turned to deficits and their prosperity into bankruptcy do not see any reason why railroads should be dealt with on any other basis than that which they have suffered. All arguments to the contrary, however alluring to those who put them forth, will not stand the test of the public's views on the subject. It becomes, therefore, supremely important to railroad security holders that they win public favor by giving the public the facilities which existed in former days when railroads eagerly competed in facilities for travel at low rates and eagerly sought freight at prices which then yielded a fair profit.

No man who travels and pays the present exorbitant charges for tickets and Pullman accommodations will be a friend of railroads. Inevitably he becomes an aggressive opponent of them. No business man hampered by the exorbitant freight rates which are now in force will be a friend of railroads so long as these conditions last.

The railroads must, if necessary, take a temporary loss, even if that loss means that they must suffer as severely as

the farmers and the merchants and the manufacturers of the country have suffered during the last 18 to 20 months. An investment in railroad securities is not more sacred than an investment in a farm or in a factory, despite all arguments that may be advanced to the contrary.

It is true that the railroads have to face the iniquitous Adamson bill and the War Labor Board's activities, but these would never have occurred if the railroads themselves had not encouraged public hostility for many years before the war by their political activities and their disregard of public sentiment. The railroads, therefore, are in part, indeed to a large extent suffering from their own mistakes, many of which were pointed out to them year after year but the warnings given were not heeded.

We appeal to railroad owners and managers to calmly face the present situation, to recognize that they must pay the penalty of former misdoings and that when they justly denounce the Adamson law they must recognize that they are in part responsible for the sentiment which made the passage of that law a possibility. They must also recognize that their losses are not more serious than the losses of the farmers or the industrial interests of the country. But the farmers did not stop planting because they could not produce to a profit; they kept on at work and are supplying the country with foodstuffs, without which we would starve. They are facing burdens of indebtedness, which will take them years to pay. The railroads must face the same situation with courage and grit and with an awakening to the necessity of saying to the public, "Regardless of temporary losses, which we believe would come about by radical reductions in freights and passenger travel, we will dare to make the attempt, we will cut our rates and we will see if the public will arise to the opportunity and so increase the volume of business and help save the railroads and the country from the iniquitous labor legislation as to make up for the lower rates which we are offering."

We challenge the railroads of the country to make that move. If they do not make it voluntarily, they will be forced to do it involuntarily. Which will they do?

EMPLOYERS MUST STAND FOR THE OPEN SHOP.

IN a letter to the MANUFACTURERS RECORD Mr. Franklin G. Thomson, Secretary of the Texas Industrial Association, Austin, writing on the question of the Open Shop says:

"You no doubt are more or less well acquainted with the work of the Southwestern Open Shop Association, which is our parent association. We have been eminently successful in working out closed shop problems, so much so, in fact, that it is with the deepest regret that I am forced to confess that securing sufficient money to carry on the work of our organization is a problem that I question whether we are going to be able to successfully solve. If we had one millionth part of the fighting spirit among tue employers that our opponents demonstrate every day in the year there would be absolutely nothing to it. Our problem has not been so materially beating the closed shop as it has been to keep the employers hitched. The average employer is altogether too inclined to throw up his hands when he is up against a stiff fight or else following a decisive victory return to his business and promptly fall asleep as far as the Open Shop is concerned.

"I am trying to impress on the minds of the employers of Texas that they have before them one of the most critical periods in the history of their business. It has come to me that one of Mr. Gompers' promises that secured his re-election as president of the American Federation of Labor was that he would utterly destroy the Open Shop movement within the coming year, and unless the employers wake to the real situation he will accomplish his purpose beyond doubt, and the employer will find that another effort to create the Open Shop in industry will not appeal to the general public as it has within the past two years."

THE WAKED DOG BARKS LOUD.

An editorial in the Hearst newspapers, apparently written by Arthur Brisbane, says that "the spectacle of the National Reserve Bank profiteering and doing its best to legalize usury, with a 6½% interest rate, was enough to make pawnbrokers laugh." Yes, even though the pawnbrokers found the competition rather severe, the increase of business must have been extremely remunerative. But why is it that the Hearst and other newspapers are only now beginning to comment on the nefarious practices of the Federal Reserve Board? Intelligent public discussion could have prevented or mitigated the reign of terror, but the editors of the country had nothing to say while the scythe of ruin was being swung. They sound the alarm bells too late. The safety of a democracy depends on the ceaseless vigilance of the press, and the press of the United States, while financial pestilence raged, did nothing more, in general, than repeat the propaganda of paid writers who, under orders, advanced the thesis that the pestilence was highly beneficial and ought to be hailed with acclaim. How much longer can President Harding afford to keep Governor Harding in office?

AN AMAZING RAILROAD SITUATION.

In testimony before the Interstate Commerce Commission in opposition to the application of the Southern Hardware Traffic Association for lower freight rates, Mr. L. E. Wettling, Manager of the Statistical Bureau of the Western Railroads said:

"In view of the large number of bad order freight cars, which, however, cannot be repaired owing to lack of sufficient funds on the part of the roads to do the work, a sudden marked increase in the volume of traffic would result in a car shortage."

Mr. Wettling added that if the roads had the money to do the work, he estimated that five or six months would be required to put them back into the efficient condition that existed in 1917.

Here is a plea from a railroad official against a marked increase in business because the railroads could not handle it. It is a situation so amazing that one can scarcely comprehend the frame of mind which permits any railroad man to take that position and on that ground argue for the maintenance of present high freight rates. This argument would almost incline one to believe that it is the definite policy of railroads to prevent the revival of business on a large scale because if there was a rapid increase in traffic they would be unable to handle it.

When the campaign of deflation of business began in Washington two years or more ago, we pointed to the evidence which seemed to indicate that there was a definite determined policy, worked out in harmony by the Interstate Commerce Commission and the Federal Reserve Board, to break down business, because neither the roads nor the banking powers seemed equal to rising to the emergency of taking care of increased business. Apparently they regarded it as a much easier proposition to lessen the volume of freight and to lessen the amount of credit and thus drastically curtail the growth of the country as the simplest way to solve their own problems. At that time we said that the evidence was very strong that this was the policy which had been carefully worked out by the Federal Reserve Board and the Interstate Commerce Commission. The more we see of the operations of these two organizations and of the railroad work in connection with the Interstate Commerce Commission, the more we are inclined to believe that the indications which we then surmised have since proven to be entirely correct.

Here is a railroad official who does not want to see a

marked increase in the volume of business because it would result in a car shortage and he at least would prefer a small volume of business at the present exorbitant freight rates rather than to see an increased volume, because the roads, according to his testimony, could not take care of the larger traffic.

Shall American business interests be forever throttled by such narrow-visioned men as those who have had charge of the situation in Washington during the last two years or shall we unshackle business and put into effect policies which will expand credit, enlarge the volume of traffic, develop the railroads and bring abounding prosperity once more to the country? If the strangle hold of Government on railroads and finance could be broken, railroad men would once more have the courage and ability to revive and save the railroad situation and the business interests of the country. A curse upon the country has been Government commission control of railroads, banking and other things.

WILMINGTON PRINTER STATES THE CASE.

MAJOR JOSEPH W. LITTLE, president of the Wilmington (N. C.) Printing Company, in answering a letter of a union printer, expressing his determination to continue operating his printing plant as an open shop said:

"As long as the Wilmington Printing Company was operated as a closed shop I always treated with whatever union representative was sent here. In my experience covering a number of years I have had occasion to confer with many union representatives and committees. But I wish to say here and now that I cannot enter into any negotiations with anyone relative to union matters.

"The Wilmington Printing Company is being operated as a non-union shop. Our policy and purpose has been openly declared. We have a full force of non-union employees. We are operating in a highly satisfactory manner. Our employees are loyal and are working for our interests. We are under deep obligations to them and expect to carry out our contracts with them.

"We bear no ill-will towards union workmen formerly in our employ. We are under no obligations to them, as they voluntarily left us on strike."

GREAT INDUSTRIAL ADVANCE

THE industrial development of Baltimore between 1914 and 1919, and much of this was not connected with war work, was amazingly great, and the industries established since 1919 and new ones now under construction would add enormously to the total figures if they were at present available.

The value of manufactured products in 1919 amounted to \$677,878,000, which exceeds by \$135,000,000 the value of manufactured products for the same year for the State of Alabama, and by \$36,000,000 the value for the State of Virginia, and by \$206,000,000 the value for West Virginia.

The capital invested in manufacturing in Baltimore advanced from \$177,301,000 in 1914 to \$434,244,000 in 1919, and this capital increase is a better exponent of the rapid growth of industry in the city of Baltimore than the value of the products, since the latter was in part effected by higher prices.

The number of employees in manufactures in the five years increased from 87,453 to 117,140, a gain of 33.9 per cent.

The industries now under construction and those established since 1919 would very greatly enlarge these figures.

In the rapidity of its industrial growth, Baltimore is fast taking a front place as one of the outstanding manufacturing centers of the country.

Iron and Steel of Alabama—The Foundation for Vast Industrial Activities.

By COURTENAY DEKALB. *

It was said by James W. McQueen, president of the Sloss-Sheffield Steel and Iron Co., in a paper read before the American Iron and Steel Institute in 1914, that "Southern foundry pig will not be 'The little pig that stayed at home' but will go to market every day."

The truth of this was exemplified during the dull days of 1920, when Birmingham foundry iron secured a fair market, even in Northern manufacturing centers, despite the long haul and the exorbitant rates of freight, because this product of the blast furnaces in the Birmingham district possessed distinct advantages in quality over the pig smelted from Lake ores. Moreover, so great was the advantage, from the manufacturers' point of view, that this Southern foundry pig commanded a premium of nearly \$2 per ton over competitors products in the Northern market. The reasons for this are that it makes a more fluid melt and yields sharper, cleaner castings; the castings are softer, with the same silicon content, than those produced by Northern iron; there is less internal shrinkage, less contraction, and therefore it more perfectly fills the mould; it produces castings of finer grain, without sacrifice of softness, and with almost no "skin" or "hair edge" on the broken casting. Southern foundry pig has afforded the best solution of the problems presented in the manufacture of automobile cylinders, and in large castings for pumps and engines.

This inherent superiority of Birmingham iron for foundry uses have been at once a boon to the local iron industry and a deterrent to the development of the larger possibilities of the district. It has made possible the growth of important operations based on a partly manufactured product. It has left the district too dependent on outside markets, and to a great extent on distant markets, without that diversification of industry which would come with a fuller development of steel making and through attraction of the district of a greater number of fabricators. It is diversification that brings in its wake large concentrations of population, to widen as an expanding circle through the South, and thus create a steady demand within easy reach of the source of production. It is this that tends to stabilize industry.

There were, at the beginning of 1920, in the Alabama field, 44 blast furnaces, of which only 13 were producing metal for conversion into steel. The total capacity of these furnaces was 3,685,925 gross tons, representing an actual ore-production in 1919 of 5,034,000 tons, while the total annual steel-making capacity was 1,354,200 gross tons.

It was James Bowron, one of the most far-seeing pioneers of Southern industry, who visualized the need of redeeming Birmingham from dependence on markets for half-finished

products in distant centers, where competition was fierce and difficult to overcome. It was he who acted on the idea that, if Birmingham pig iron could be shipped to Chicago and Pittsburgh and there converted into steel, there should be no reason why it might not be converted into steel on the spot. With indomitable will and energy, assisted by favoring conditions for distribution of product and for the local assembling of raw material by the Louisville and Nashville Railway, but without strong capitalistic aid, he so managed the Tennessee Coal, Iron and Railroad Co. as to make it finance itself until its success had become sufficiently impressive as to attract the attention of the United States Steel Corporation. Then followed the great merger which led to a famous legal contest, ending, fortunately for the South, in confirmation of the action of the Steel Corporation.

Before passing on, it may be fitting to add that James Bowron did not follow the steel plant of his creation into the Steel Corporation, but undertook again to point the way to the future greatness of Alabama as a steel-making center, by undertaking the still more difficult task of putting new life into what has now become the Gulf States Steel Co. It was a kind of forlorn hope, an enterprise that had blundered its way into the hands of a receiver, but under his masterly management it was not merely pulled out of the sloughs, but erected into a virile modern steel works, with its own battery of Koppers by-product coke ovens, and six 50-ton basic open hearth steel furnaces, the product of which is turned into barbed wire, wire fence, and nails. The mill contains six 40-block benches, and two 20-block fine-wire drawing benches. There are also 13 Denning's patent hinged-joint woven-wire fence machines, and twelve bale-tie machines. The output from this plant now goes all over the world. This was the first plant in the Birmingham district to develop a great market in South America. The works are at the northeast end of the field, at Alabama City, to which point the Clinton red ores from Red Mountain are transported.

Mr. Bowron has been a pioneer in another respect that is equally notable. He has settled the question of deep mining on the great beds of Clinton ore that outcrop along the upturned strata which form the southern rim of the depression in which Birmingham lies, and thence dip southward under Shades valley and the mountain ridge of the same name. It had long been held that the ore represented replacement in a limestone, and that with distance from the outcrop the lime would gradually increase and the ore become correspondingly impoverished. Bore-holes, few in number, had yielded contrary evidence, but this was deemed inconclusive. Next, it was argued that some superincumbent strata were water-bearing, and that the ore, if it existed in depth, would be unavailable on account of the impossible volumes of water that would have to be handled. The only ore-reserves of the Gulf States Steel Corporation, however, consisted of a remnant of the Clinton mine on the outcrop, and it would be a tremendous handicap to be forced to buy ore in the open market.

The Tennessee Coal, Iron and Railroad Co. had dropped its option on the Shannon holdings during the great suit for dissolution of the merger, and Col. Bowron seized the opportunity as the one measure of possible relief. The property consisted of 1,647 acres, more than three miles from the outcrop, in the area overshadowed by so many gloomy prognostications. A single drill-hole had shown the ore-bed

*Mr. Courtenay De Kalb, distinguished engineer, chemist and technical expert, is conspicuously qualified for the work of analyzing and appraising the facts and the potentialities in a great industrial development proposition, such as Birmingham and its adjacent mineral territory constitute. Mr. De Kalb has had practical experience as a mining engineer in various places in this and other countries, and has been an educator and voluminous writer on scientific matters. He practiced as a mining engineer in Western and Southern States; went on expeditions up the Amazon River and into Peru, Central America and Mexico; was manager of the San Fernando Mine, Durango, Mexico; exposed the Treasure Mine in California, and was president and general manager of the Pacific Smelting & Mining Co. at Guaymas, Mexico. He was professor of mining and metallurgy at the University of Missouri for four years and of Queen's University, Canada, for a similar period. He was trade commissioner of the United States Department of Commerce for the investigation of the mineral resources of Spain, Portugal and Morocco in 1919. He has written handbooks and studies on scientific subjects, besides contributing to periodicals on Latin-American affairs and international politics. He is an honorary member of the Geographical Society of Peru, a member of the American Institute of Mining and Metallurgical Engineers and of the American Chemical Society.

with normal dimensions and quality at a vertical depth of 1900 feet. An incline shaft had been started by previous owners and had been driven to a depth of about 300 feet. Regardless of adverse criticism Col. Bowron proceeded to deepen this shaft. It is a notable slope, nearly 2500 feet in length, with a width, inside the concrete lining, of 17 feet, and it is 9 feet 7 inches high at the centre of the arch, narrowing to 3 ft. 4 in. at the sides. Many engineering difficulties were met and overcome, and at the expected depth the ore was entered, where the vein was found to be even better than the average grade. Ten feet of ore in the workings, now opened for exploitation, show an average content as follows:

AVERAGE OF SHANNON ORE	
	Per Cent
Iron	38.50
Lime (CaO)	15.51
Silica	10.92
Alumina	2.88
Phosphorus	0.30
Manganese	Traces

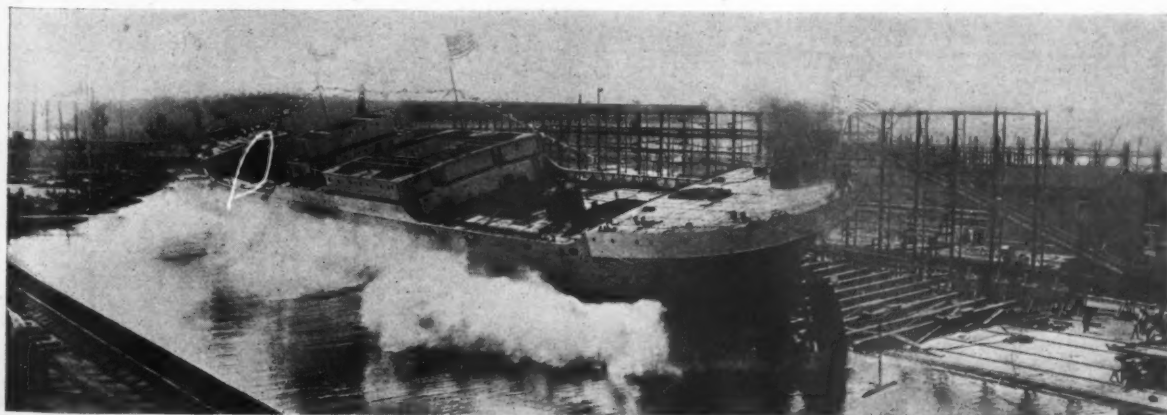
The last inflow of water was found at a depth of 400 feet, every obstacle was overcome, and with the entry of the shaft into the 10-foot seam of splendid ore Col. Bowron had assured to his enterprise an estimated available reserve of 133,864,000 tons, placing it next to the Tennessee Coal, Iron and Railroad Co., in point of ore-supply among the mines of the district.

Col. Bowron had blazed the trail for the "T. C. I.," which the United States Steel later acquired. His work had been that of the pioneer, whose genius is to open up possibilities practically without capital. For the complete development of a vast fundamental industry like that of making iron and steel, a different mode of attack is imperative. The industry must be made self-sustaining, able to meet and weather periods of depression. A man of unusual talent was selected for the second epoch of the Tennessee Coal, Iron and Railroad Co. George Gordon Crawford had first distinguished himself in Pennsylvania, becoming one of the trusted lieutenants of the great Steel Corporation. He knew the needs of such development as was contemplated in Alabama, and the severe financial strain that might result in building securely for the future. Millions would be required, and remunerative profits commensurate with such a vast investment might only come slowly. He had before him the problem of building a new steel empire for the parent company, and he was sustained courageously until the greater part of the work has been accomplished. The result is seen today in one of the most superb and widely differentiated enterprises in the world, making not only standard commercial plate and structural steels, merchant bar, rails, and ship-plates, but fabricating pressed-steel cars, and building splendid steel ships of 10,000 tons burden at the Chickasaw ship yards above Mobile Bay, which immediately en-

ter service in the fleet of the United States Steel Corporation, distributing the product of the steel works at Birmingham to Japan and China, to India, to South America, to all the world.

As an adjunct to the enterprise of the Tennessee Coal, Iron and Railroad Co., at Birmingham, is a mammoth plant of the American Steel & Wire Co., alongside which is the newly finished steel car works, while a great steel foundry is just being completed, together with a plant for the American Bridge Co. The open hearth department is supplemented by a plant that prepares basic slag for fertilizer, and the coal is coked in a battery of 434 Koppers ovens, of which 154 were added during 1920. From these are obtained the usual by-products, ammonium sulphate, benzol, and coal tar. The iron reduction plant comprises twelve blast furnaces, six at Ensley, four at Bessemer, one at Alice, and one at Oxmoor. In the steel plant are eight tilting furnaces of 100 tons capacity each. There is one 44-inch blooming mill, one 34-inch billet mill, one 30-inch rail mill, one 8-inch guide mill, one 16-inch bar mill and one 72-inch plate mill. The steel car plant has a capacity of 35 cars per diem. In the development of all this the demonstration of the possibilities of the Birmingham district has been conclusive, and is an augury of further expansion under Mr. Crawford's broad vision of possibilities.

Outside of these two steel plants, the Gulf States and the "T. C. I.," all the other operators in the district are producing pig iron only. Some of these are mammoth concerns, strongly entrenched, with assured markets for all they can produce in normal times, with the certainty of an increased Southern demand with the growing development of collateral industries, attracted by the existence here of the best foundry irons in America, and with the supplies of steel also available. A conception of the importance of the local consumption of iron and steel, resulting from the advantages of this great center of production, will appear from the fact that Birmingham has four great foundry and machine works, the Birmingham Machine and Foundry Co., the Hardie-Tynes Manufacturing Co., the Thomas Grate Bar Co., and the Joubert-Goslin Machine and Foundry Co., the latter being one of the largest manufacturers of sugar-mill machinery in the world. In addition to these are the Bessemer Foundry and Machine Co., at Bessemer, a suburb of Birmingham; the Attalla Foundry and Machine Co., at Attalla, near the northeastern end of the iron district; the Interstate Foundry Co., at Anniston; the Union Iron Co., at Selma; Strickland Bros. Co., at Tuscaloosa, and the Home Industry Works at Mobile, which city has become linked with Birmingham as part of one great industrial district by the cheap and prompt transportation afforded by the Warrior River Service.



LAUNCHING OF STEAMSHIP MOBILE CITY AT YARDS OF CHICKASAW SHIPBUILDING AND CAR CO., MOBILE. This is a steel ship, built by a subsidiary of the Tennessee Coal, Iron and Railroad Co., (United States Steel Corporation) of Birmingham steel, and now in service carrying Birmingham iron and steel products to all parts of the world.

The Connors Steel Co., and the Connors-Weyman Steel Co., at Birmingham, the Anniston Steel Co., and the Mobile Steel Co., represent a demand for semi-finished material by fabricators. Twenty-eight firms are making cast-iron pipe at Birmingham, nine at Anniston, three at Gadsden, and one at Holt. As indicative of a further demand for machinery and supplies, there are 25 cotton mills in Alabama, six cotton seed oil mills, sixteen large coal mines, equipped with coal washers, and forty-five large lumber manufacturing concerns, one wire-rope works, and one car-wheel manufacturer. This is only a partial list of the local consumers of iron and steel on an important scale, and it must be remembered that Georgia constitutes part of the commercial zone tributary to the Birmingham iron fields, where the number of consumers is today even greater than in Alabama.

It has been mentioned that the foundry irons of Alabama are superior for automobile cylinders, and parts for automobile engines are already being made in Alabama, mostly shipped North for finishing. It is not surprising, therefore, to learn that Henry Ford has long been investigating the district with a view to establishing an automobile factory in Alabama for serving the Southern trade. It is shrewdly suspected that his interest in the Muscle Shoals project is related, directly or indirectly, to larger plans for manufacturing autos and trucks in this region.

Typical of the furnace companies producing pig iron only are the Sloss-Sheffield Steel and Iron Co. and the Alabama Company, both powerful concerns, with a great future. The Sloss-Sheffield owns seven furnaces. One is at present in need of extensive repairs, one is in blast, and the other five are ready for operation on two weeks' notice. Furnace No. 4 is an 85-foot stack, with 16 ft. 6 in. boshes, producing 250 tons per diem. The shell is stiffened with channels having a 12-in. web. The superstructure, including the skipway, is carried on this re-inforced shell. The charges consist of 6600 lb. high-grade hard red ore, 2200 lb. lean hard red ore, 2200 lb. brown ore, and 950 lb. dolomite. The pig iron, which is typical of the Birmingham foundry irons, has the following composition:

SLOSS-SHEFFIELD FOUNDRY PIG	
	Per Cent
Iron	93.5 to 94.00
Combined Carbon	0.30
Graphitic Carbon	3.40
Silicon	2.60
Manganese	0.50
Sulphur	0.30
Phosphorus	0.78

Recently an all-steel casting-house has been erected, and some novel equipment introduced. The manager of furnaces

for the company, J. P. Dovel, has designed a pig-iron breaker which greatly economizes labor and time. This consists of a non-reversing drill-type air-hammer, swung by a block from an overhead trolley, having an eight-inch piston and a four-and-a-half-inch piston-rod, with a chisel-nose hammer striking an 8-ton blow. The length of stroke is 15 inches, and the cylinder takes air at 60 to 80 pounds pressure. The weight of the breaker is 2900 pounds. The breaker-frame is a large heavy casting mounted on a framework which straddles a track, so that the broken pigs may drop directly into a railway car beneath. In the breaker-frame, which is 10 in. thick, tapering to 6 in., are rectangular holes 2 ft. x 1 ft. 6 in. The sow with adherent pigs is picked up by an overhead traveling crane, brought to the breaker-frame, and in three or four minutes a grid of sow and pigs 18 ft. long, is broken and loaded. By this system even the "jumpers," or twin pigs, are broken and sold instead of being returned to the furnace.

During the war the Sloss-Sheffield Co. erected at North Birmingham a battery of two blocks of the most modern type of Semet-Solvay by-product coke ovens, 120 in all, at a cost of \$6,500,000. This splendid plant is now supplying daily 4,000,000 cubic feet of surplus gas, having a heating value of 550 B. T. U., to the city of Birmingham at 15 cents per thousand cubic feet. It is estimated that this saves to the citizens of Birmingham over one million dollars per annum, while it adds enormously to the economy of operations for the Sloss-Sheffield Co.

The Alabama Company owns two furnaces at Gadsden, at the northeastern end of the district, where it also owns and operates high-grade red-ore mines, and has access to local brown ores, and could conveniently, on occasion, draw from the Talladega gray-ore field. It also owns 2 furnaces at Ironaton. Furnace No. 1 is 76 ft. high, has a 11-ft. hearth, and 17 ft. 6 in. boshes, taking air at 17 lb. pressure at the rate of 36,000 cubic feet per minute. No. 2 furnace is 87 ft. high, with boshes and hearth of the same dimensions as No. 1, but it requires air at the reduced pressure of 12 lb. per cubic foot. This furnace yields in iron 39 per cent of the ore-mix, producing 245 tons of pig daily. A feature of the plant, new in the Birmingham district, is a casting-machine, made by the Heyl & Patterson Co., Inc., of Pittsburgh. It is a single-strand machine, with 279 moulds in the chain. Each half-pig from the mould weighs 39 lb., and the speed is 12 pigs per minute. A 50-ton cast requires only 45 minutes. The iron is poured from ladles made by the William Pollock Co., Youngstown, Ohio. This improve-



TYPICAL RED ORE MINE OF BIRMINGHAM DISTRICT.

Property of Clinton Mining Co. (Gulf States Steel), 400 feet from outcrop. The ore after robbing pillars, stands over a width of 1,700 feet, with only local falls on local dips. The arch swings from skewbacks 1,700 feet apart. Cover is 100 feet maximum.

ment is due to the initiative of H. W. Coffin and J. W. Porter of the Alabama Co., who have other plans for betterment in view. This company is producing ore at the Attalla mine, near the furnace plant, where the iron content is 38 per cent, silica 8 per cent, alumina 6 per cent, lime (CaO) 10 per cent, phosphorus 0.4 per cent, and manganese 0.28 per cent.

The Alabama and the Sloss-Sheffield plants are typical of the foundry-iron producers of the district. A peculiarity of the Alabama Co.'s pig iron is an appreciable amount of vanadium. The ores of the entire district contain traces of that element, but it exists in larger quantity in the north-east portion of the ore-belt. As an example, the following analysis may be of interest, representing recent deliveries of the so-called "Clifton" brand of the Alabama Co.:

"CLIFTON" FOUNDRY IRON		Per Cent
Combined Carbon	.....	0.44
Graphitic Carbon	.....	3.08
Silicon	.....	2.77
Sulphur	.....	0.012
Phosphorus	.....	0.530
Manganese	.....	1.25
Vanadium	.....	0.02
Titanium	.....	0.07

This iron is the product of a mix consisting of three-fourths brown ore and one-fourth red ore, thus securing the high manganese content. Pig iron from these furnaces is shipped to Chicago and other Northern points, and also through Mobile to the Pacific Coast.

Logically classed as belonging to the Birmingham District is the 2-furnace plant of the Shelby Iron Co., dominated by a progressive man, Morris K. Bush, whose father, Col. T. G. Bush, was one of the forceful pioneers of the iron business in Alabama. These furnaces operate exclusively on brown ores, using charcoal as fuel, prepared in an elaborate by-product plant, and making two grades of iron, one a soft iron specially suited for steel rolls for rolling mills, and for auto cylinders; the other a low silicon iron, with 0.4 to 0.6 per cent phosphorus, for wheel makers. Mr. Bush has recently completed at North Birmingham a 60-oven modern Koppers by-product coking plant, which possesses many interesting features, described in the MANUFACTURERS RECORD for September 1, 1921.

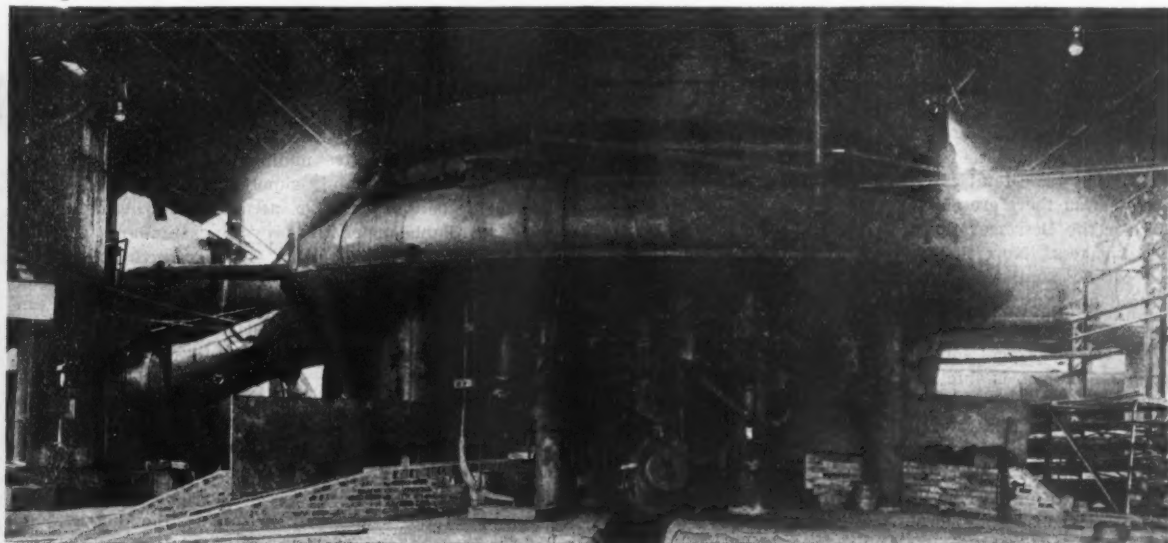
The other important pig-iron producers of the district are the Woodward Iron Co., with 5 furnaces and a by-product coking plant with a benzol plant; and the Republic Iron and Steel Co., with 3 furnaces. Both of these companies

mine red and brown ores, and all the companies in the district own their individual sources of coal-supply.

A distinguishing feature of the Birmingham district is the existence, in close proximity, of the outcrops of red Clinton (Rockwood) ore and the great Warrior coal basin. The iron ore has been brought to the surface by a general anticlinal, with a comparatively shallow syncline extending along the middle. A full discussion of the geologic features has been given in Bulletin 400 of the United States Geological Survey, prepared by Ernest F. Burchard, Charles Butts and Edwin C. Eckel. It would be impossible to discuss these details in a brief cursory paper. The significant point is that the two essentials for iron-making here lie only a few miles apart, on either side of an elongated basin, the Birmingham Valley, which is accessible for railroads not only at the ends of the valley but at right angles to it, by virtue of natural passes through the mountain barriers.

This makes Birmingham one of the most favored spots in the world for an iron and steel industry. Because of these advantages Birmingham has taken its high rank and will continue for ages to be a center of mammoth industry. As the high-grade ores of the Lake district become exhausted it will enjoy an increasing advantage, and the fact that great investments are being made today, such as the \$60,000,000 plant of the East Missabe Iron Co., now being built for beneficiating the lean ores of that district, shows clearly that the period of cheap rich ores in the North is passing. It was not many years ago that the average output of the Lake ores analyzed close to 60 per cent metallic iron. In 1920 the average of all ore smelted by the U. S. Steel Corporation was 55 per cent. Each decade marks a distinct decline, which is reflected in the costs. In 25 years, it is estimated, the Missabe ores will not average above 50 per cent. It must be remembered that these ores carry no self-fluxing ingredients. On the other hand the ores of the Birmingham district average between 37 and 38 per cent iron, with 10 to 11 per cent of lime. The Gulf States Steel Co.'s reserves are within 2 per cent of being self-fluxing; the average amount of lime needed in the furnace mix for the district is 3 per cent, and this is quarried between the outcrops of ore and coal.

Costs are so variable in these days of fluctuating prices of materials and labor that exact comparisons are difficult. It is near the truth, however, to say that the total new-material cost at Birmingham is at present approximately



BLAST FURNACE NO. 1 OF ALABAMA COMPANY AT GADSDEN.

February 18, 1921. Repaired—actually rebuilt—and ready to blow in. This furnace, 76 feet high, 17-foot 6-inch bosh and 11-foot hearth, distinctly modern, with water-jacketed crucible shell, and with bronze cooling plates inserted through upper part of crucible shell, and into brickwork of boshes.

\$20 per ton of pig produced, on the basis of 2.65 tons of ore yielding 1 ton of iron, with a composition of ore of 37 per cent iron, 30 per cent lime carbonate, 10 per cent silica, and 4 per cent alumina. Opposed to this is an approximate cost of \$22 per ton for pig iron produced at Northern furnaces from an average of 54 per cent ore. The cost of the Lake ore at the mine is now about \$4 per ton, while 37 per cent self-fluxing ore can be bought in the Birmingham market for \$3 per ton. In 1910, at a period of fairly stable prices, an exhaustive inquiry into the Steel Industry by U. S. Commissioner of Corporations (Report of the Commissioner of Corporations, Part 2, Cost of Production, Jan. 22, 1912, p. 108) showed the relative Northern and Southern costs to be as set forth in the following table:

Items of cost per gross ton of pig iron.	Integration cost, exclusive of any return to investment on any anterior stage of production or transportation.	Northern basic	Tenn. C&I Southern
	Bessemer 6,269,534 tons	4,543,177 tons	585,273 tons
Net Metallic Mixture	\$4.95	\$5.28	\$2.88
Coke	3.30	3.31	3.80
Limestone	0.41	0.48	0.19
Labor	0.55	0.56	0.75
Other Operating	0.50	0.46	0.95
Total	9.71	10.09	9.57

The item of coke-cost is high because of the larger proportion required with the Southern ores, due mainly to the relatively high silica-content. On the other hand, the actual cost, exclusive of intermediate profits, of the Southern coke, when produced, as most of it is, by the same company that consumes it in the furnaces, has undoubtedly been materially reduced by the phenomenal expansion of by-product coking during the war. The Commissioner's report, summarizing the facts, stated: "The marked advantage of the Southern pig-iron costs, even on a net basis, is evident. * * Of course, from the point of view of quality, the Southern iron should be compared with Northern basic and not with Bessemer. On the other hand, the Northern pig iron has a great advantage in location with respect to the chief markets of consumption. For market points north of the Ohio River the freights on Southern pig iron are much higher on the average than those for Northern furnaces, and more than offset the advantage in cost of production."

The fact that a large part of the output of the Birmingham district is now and long has been sold in the North, as far as the Great Lake centers, indicates that there is a virtue in the Southern iron for special castings that cannot be matched by Northern pig iron. This is an advantage that will persist, and will always draw off any Southern surplus, no matter how great may be the local development of manufacturing and the diversification and expansion of the Birmingham steel industry. It is interesting to observe that the Commissioner of Corporations pointed out (loc. cit., p. 109) that "The total cost above materials of the Southern furnaces was therefore \$1.70 per ton of pig-iron, as against \$1.05 for the Bessemer furnaces and \$1.02 for the Northern basic furnaces. Nevertheless, as shown above, the net furnace-cost for Southern pig iron was much lower than either of these two Northern grades on account of its much lower costs of raw materials combined."

Part of this excess labor and operating cost in the Birmingham district is due to the high silica-content of the ores. Every unit of silica requires its proportional quantity of coke, and absorbs its proportional labor cost for handling the ore-mix to and through the furnace. Also, the Southern washeries cannot produce coal for coking as clean as that from the Pittsburgh seam, owing to inherent vegetable ash. This both consumes more coke per ton of iron produced, and adds to labor costs at the furnace. Both of these disadvantages may be reduced. How far they can be lowered is for further experiments and improvements in practice to determine.

Reduction in the silica-content by concentration is indicated as an economic necessity in the higher development of the Birmingham iron industry. The tendency of some iron masters in the district today is to scoff at such an idea, and the abandoned attempts of Col. C. E. Buek to work out the concentration problem there is pointed to as proof of the futility of further efforts in that direction. The details of Col. Buek's investigation never have been made public, but it is said that he denies that he encountered insuperable difficulties. In any case, an inspection of the ore, especially the more silicious grades, reveals silica in grains altogether separate from the flakes and nodules of hematite, of which the ore is mainly composed. It is evident that even table-concentration would remove such silica grains.

Magnetic concentration has, so far as tried, given unsatisfactory results. This seems to be due to the fact that in many of these silicious particles (as shown by my own small investigations) a very large proportion of them contain films of magnetite, either adherent or penetrating the grains on fracture lines. There is undoubtedly a problem to be solved, but I find the conviction to be growing very strong among the Birmingham iron masters that concentration must come. It may cost money to work it out. The East Missabe Iron Co. expended \$780,000 in a course of experiments lasting five years in working out the safe line of procedure in the construction of the first unit of their Babbitt mill. It will probably not be so difficult to work out an economic process at Birmingham. Moreover, the Bureau of Mines lately has assigned to Prof. Hugh D. Pallister, under the direction of Dr. Crane at the Birmingham Research Laboratory of the Bureau, the task of experimenting on the concentration of the Alabama ores, and whether or not he succeeds in offering to the public a demonstrated economic line of treatment, he is certain to reveal more of the characteristics of the ore than have been known hitherto, and to point the way to success, which can be followed by private capitalists in perfecting the practical details.

The self-fluxing area of the red ores is contained within a distance of less than 7 miles along the northeast strike of the outcrop, and the width is estimated at probably a maximum of 10 to 12 miles. The total high-grade ore in the district, according to local estimates, is placed at about 1,400,000,000 tons. About half of this is self-fluxing. At the southwest end of the field the lime-content increases, but northeastwardly the silica becomes high. However, there are two divisions of the "Big Seam," of variable thickness, separated by a clay parting. These divisions change in character at different places, but a typical condition is an iron content varying with the percentage of silica, the silica being in excess at the bottom of the lower division, gradually decreasing to a minimum toward the parting, and then increasing at a lesser rate to a lower maximum at the roof. Accordingly, selective mining is the rule in the district, the upper bench mainly supplying the present ore output, while the bottom bench, on account of its high silica, is less often available under the prevailing standards for furnace-ore. Therefore the solution of the concentration problem is not a question to be put aside until the self-fluxing area has been reduced to a critical point by mining. It can contribute immediately to a reduction of cost of ore to furnace so far as the operation of the self-fluxing ores themselves are concerned.

The silicious ore now left behind in selective mining can be obtained at so small an additional cost, if extracted at the same time, as to make it exceedingly cheap ore in proportion to its iron content as soon as a successful method of concentrating it shall have been developed. This would add greatly to the available resources of the district, and lessen the cost of the pig iron produced, giving Birmingham a still more favorable cost-differential in comparison with Northern furnaces.

It is to be expected that the concentrates would be of

much higher iron tenor than the red ores now sent to furnace. Concentrates produced by Col. Buck analyzed 60 per cent iron and 8.7 per cent total insoluble. If 60 per cent concentrate be made commercially this would take about 2400 pounds of coke per ton of iron, effecting a saving of 700 pounds of coke now used with the most advantageous mix smelted at Birmingham. The general average coke consumption in the district at present is 3100 lb. coke per ton of iron. Its concentration it would seem that there is a probability of reducing the labor-cost per ton of iron at the furnace by approximately \$1.40, and the cost of concentration could hardly exceed 60 cents per ton, if done at plants of large capacity. Almost unlimited quantities of these lean ores would be made available by the solution of this problem, and it would certainly attract capital to Birmingham for new and enlarged enterprises.

It is to be hoped that the Bureau of Mines, while working on the problem of concentration, will not fail to prove the possibilities of enriching the Talladega County gray ores by a similar treatment. These deposits are of enormous extent, with the prospect of developing many hundreds of millions of tons. They lie at a distance of only about 40 miles in a direct line from Birmingham, and are much nearer to the furnaces at Gadsden and Alabama City. At one end of the gray ore outcrop the ore consists mainly of magnetite, but this decreases toward the east-northeast, where it is mainly hematite, associated with silicates, from which the iron minerals break quite free. This indicates that they would be easily amenable to concentration, and should yield a high-grade product of exceptional value.

An average of analyses of a large group of samples from different workings along the gray-ore outcrop, submitted by Dr. Philip S. Smith in Bulletin No. 315 of the U. S. Geological Survey, shows a high percentage of iron, as follows:

	Group I	Group II	Average
Iron	59.67	45.56	48.07
Silica	19.94	21.63	20.78
Alumina	5.19	3.73	4.46
Lime	0.86	1.32	1.09
Phosphorus	0.398	0.262	0.327
Sulphur	0.291	0.46	0.375

The removal of three-fourths of the silicates would apparently bring this ore up to about 60 per cent iron. This great deposit is a virgin field, destined to become a potent factor in the future growth of the Alabama iron industry.

Another great factor in the development of the Alabama iron business is found in the brown ores. These are spoken of as residual. More properly they are secondary, in the sense that they appear to be the result of solution and redeposition, during erosion, of iron from the red-ore belt in the Birmingham Valley and of the gray-ore belt in Talladega County. They consist of nodules and often of platy cavernous masses of limonite. In the Birmingham Valley they largely rest upon the Knox dolomite, in relations that suggest replacement. They are, however, of relatively recent origin, though opinions differ as to their mode of genesis. It is difficult to obtain accurate information as to the quantity remaining, but it is probably in excess of a hundred million tons, taking into account all the brown-ore areas in Northern Alabama. The following analyses from productive districts will show the desirable character of the material:

ALABAMA BROWN-ORES.

Source	Iron	Insoluble	Phosphorus	Manganese
Shelby	46.00	20.00	0.25	0.60
Talladega	45.00	20.00	0.40	0.45
Ironaton	44.00	20.00	0.26	1.17
Anniston	46.00	18.00	0.60	0.60
"	48.00	15.00	0.05	0.10
Bluffton	44.00	22.00	0.40	0.60
"	35.00	41.00	1.00	0.30
Forney	47.00	18.00	0.10	1.50

I am indebted to Mr. Y. A. Dyer, of Birmingham, for the above figures. These are in close accord with Dr. Eckel's figures given in Bulletin 400 of the U. S. Geological Survey. The silica and alumina in the insoluble are approximately in

the ratio of 3 to 1. Practically all the furnaces in the district employ brown ores as an essential part of the mix to produce the desirable Southern foundry pig, while the Shelby Iron Co. use brown ores exclusively, and the "T. C. I." uses it mainly in the open hearth converters for de-oxidizing.

It has been shown that the Southern pig iron, because of its superior quality, commands a market over a wide range of territory, coming into competition with Northern furnaces, and commanding a premium, which usually amounts to \$2 per ton. This indicates that the logical development of industry should contemplate a wider use of this superior iron in local establishments for general manufacture, but this necessitates the stimulus of a wider range of diversification in the steel industry. The Tennessee company's policy tends straightforwardly in this direction. The opportunity for expansion, however, is so great, and the disadvantage of remote competitive markets for pig iron is so serious at moments of depression, that it seems to be a practical necessity of the situation to develop other large steel enterprises, self-contained as to an abundant supply of ore, coal and coke, so that the next forward step in the progress of the district will almost certainly invoke mergers of existing concerns with this end in view.

The problems of the Birmingham district have been: deep mining, which may be regarded as solved by the experience of the Gulf States Steel Co.; concentration, which is in process of being solved; and transportation, which, after being provided by railway facilities so far as they can meet the needs of the case, has been given a radical improvement through the development of the Warrior River system and the self-propelled barges provided by the U. S. Government, affording an outlet to Mobile and New Orleans, which means cheap access to the markets of the world. The present depth in the canalized river is limited by the shallowest depth on some of the lock-sills, which is six feet. It is contemplated to deepen the waterway to 13 feet, and some of the locks now have that clearance. The time for self-propelled barges from Birmingham Port, fifteen miles from Birmingham, to Mobile is four days. Birmingham has been declared a river town, and 30 per cent of the through rate goes to the railroads handling cargo from Birmingham to the river port. A tributary district has been delimited that includes an area reaching nearly to Memphis on the west, Westport on the southwest corner, Tuscaloosa and Montgomery on the south, Atlanta on the east, and Chattanooga on the northeast, with Birmingham just south of the center, within which zone all freights, inward and outward to Mobile as the tidewater point, are 80 per cent of the rail rate. It is expected to extend the scope of these rates to include Atlantic seaboard points, and to admit through bills of lading, with transfer from barge to ship at Mobile. The Tennessee Coal, Iron and Railroad Co. is now receiving all its manganese for use in steel conversion by way of the river from the mines of the U. S. Steel Corporation in Brazil, trans-shipped to steel barges at Mobile. This river service, with the privilege of free use of the Warrior waterway by privately owned craft, completes the advantage enjoyed by the Birmingham district as a permanent world center of iron and steel manufacture, supplemented by the cheap and enormous available electric power developed by the Alabama Power Co.

Here is the basis for an empire capable of virtual industrial independence. The greatest corporation of steel makers in America have demonstrated, by large investments, their confidence in its future. Following broad policies of competitive development the region will grow in power as a factor in American life, giving balance to the commercial expansion of the nation as it gathers force through its reaction upon the vast virgin resources of the South, encouraging the unfolding of these opportunities, with the resultant increase of population that will create a greater dependable Southern market for manufactures.

Time for American Business to About Face.

ONE THOUSAND MANUFACTURERS IN CONFERENCE MAKE STRONG PLEA FOR PROMPT TARIFF ACTION, WITH ENDORSEMENT OF AMERICAN VALUATION—DEMAND REPEAL OF ADAMSON EIGHT HOUR LAW AND WAGE READJUSTMENT OF TRANSPORTATION SITUATION.

By EDWARD J. DIES, Chicago, Ill.

It is time for American business to turn the corner. Depression has been endured longer than necessary. Commonsense governmental procedure, a stiff upper lip in meeting the autocratic onslaughts of organized labor, a readjustment of the transportation situation and prompt action on the tariff legislation will quickly put the country back on a paying basis.

This, in composite, represents the views of the thousand manufacturers from nineteen states who recently held in Chicago a conference of state manufacturing associations, called to consider industrial ills. It was an enthusiastic, intense meeting, a meeting that made known its wishes in unmistakable terms, a meeting that denounced opponents of American valuation as selfish, unreasonable people who are disinterested in public welfare.

When a speaker made a stirring appeal for the public to call the bluff of the ever-menacing railroad brotherhoods and have a showdown once and for all on the transportation situation, the convention howled itself hoarse. It passed a resolution demanding repeal of the Adamson eight-hour law for rail employes and the modification of the transportation act so as to abolish the United States railroad labor board. It agreed that so-called national agreements of September, 1919 were merely American Federation of Labor ultimatums, the price demanded in times of national emergency to perform what should have been a plain duty.

The most important action of the conference was the adoption of a sweeping resolution on the tariff subject. It is an appeal to President Harding and Secretary of Commerce Herbert Hoover, chairman of the national conference on unemployment. The preamble stated that the representatives of American industries assembled at the conference submitted their views for consideration by members of the national conference on employment.

"It is already clearly established in your proceedings," said the resolution, "that the remedy for unemployment is more work in our factories, which is not to be expected as long as a large proportion of our industries are paralyzed by the failure of Congress to complete the tariff legislation.

After expression of deep concern over industrial conditions the resolution continued:

"In view of the present depressed condition of American industry, the abnormally low costs of production abroad and the unprecedented depreciation of currencies of countries seeking to sell their products in the markets of the United States, it is our solemn conviction that it is imperative that there be no further delay in the enactment of an adequate protective tariff bill, and that Congress and the Administration proceed at once to complete the program to which they stand committed before the nation.

"We especially emphasize the fundamental necessity of the American valuation provisions of the pending tariff bill as a means of standardizing import values which today are undeterminable. Such standardization is the only means of insuring to other nations equality with one another in our markets and will neither prohibit importations nor increase the cost to our people of American made goods.

"As employers of labor, to whom the wage earners of the country must look for their means of livelihood, we feel it our duty to state and to urge these propositions, and we therefore recommend that they be speedily presented in person by a committee representative of this convention, to the President of the United States, the appropriate committee of

Congress, the Chairman of the United States Tariff Commission and the Chairman of the National Unemployment Conference."

The conference time and again denounced the widespread, concerted propaganda against American valuation. While these words of disapproval were being heard a Chicago newspaper appeared with two solid pages of interviews with merchants, exporters and others showing how American valuation would cause wreck and ruin and general disaster—all of which stimulated the conference to greater determination.

"Manufacturers are at last up in arms and mean to get action," said one delegate. It was easy to believe his sincerity.

As to taxes, it was repeatedly pointed out in addresses that the uncertainty of pending tax legislation is a serious deterrent to business. This fact was called to the attention of Congress in a resolution which asked that body to pass at once "appropriate tax legislation sufficient to provide the necessary revenue of government economically administered" and thus have an end to the suspense. The resolution stated that there was a difference of views on taxation.

Another resolution disapproved use of government money for further subsidies or "aids" to state and local governments declaring it "results in confusion of national and local finances and encourages waste and extravagance."

"Two measures now pending in Congress—the Smith-Towner bill for a so-called federal department of education, and the Sheppard-Towner maternity bill—would together nearly double the present \$113,000,000 of existing federal 'aids' for roads, agricultural promotion and other purposes," said the resolution, which opposed "creation of any new federal 'aids.'"

"Six months after passage of the revenue bill," Congressman Ira C. Copley, member of the ways and means committee of the house, told the conference, "the cost of living will have gone down, business will have revived, governmental hampering of industry will have ceased and the country will be prosperous."

He attacked the excess profits tax as a futile and cumbersome device, which has increased the cost of living without giving the government proportionate revenue. He said that labor is paying the bill, that men of large incomes dodge the tax by putting members of their families on their pay rolls. Profits are pyramided, individual initiative is destroyed, and such enterprises as chain stores, whose losses can be checked against excess profits, are encouraged.

President Samuel M. Felton of the Chicago Great Western railway, speaking at the transportation session, urged delegates to see that roads were so managed that the operators could grant rates wanted and needed by the public. Senator Albert B. Cummins put the situation in a nutshell, Mr. Felton said, when he recently stated: "Railway rates will come down, but they cannot come down as rapidly as they went up."

Regulation of union labor, declared A. C. Davis of Jamestown, N. Y., is one of the greatest economic questions facing America. He assailed labor leaders and railway brotherhoods which he declared had forced over wage increases when the country faced a crisis; increases granted with a figurative pistol at the head. These wages boosts were a tremendous factor in bringing on the present transportation situation.

Being a labor leader is a great profession. The speaker

pointed out that a salary of \$25,000 a year was not unusual; that recent reports tell of one leader who receives \$100,000 yearly. "These high salaried men must get results—and they do at the public's expense," he said. "Radicals have assumed leadership. It is high time union men cleaned their unions from within."

Hundreds of manufacturers leaped to their feet and applauded at the conclusion of Congressman J. W. Fordney's American valuation address. His speech, a comprehensive presentation of the subject, was interrupted time and again by outbursts of enthusiastic approval. Indeed, the address was the outstanding feature of the conference.

He pointed to Great Britain's public debt, which is 46 per cent of her wealth; to France's public debt, 53 per cent of her wealth; to Germany's which is 125 per cent of her wealth, and declared that America, with her public debt of \$24,000,000,000, is better off than any nation that took part in the war.

After deploring the fact that 67 cents of every dollar collected by the government last year was used in maintaining the army and navy, building fortifications and paying pensions, the speaker held out hope for the coming disarmament conference.

"Let us pray to God," he shouted, "that the wisdom of those men may be sufficient to find a way to disarm."

He told of the recent passage by the house of the general tariff revision measure and the legislation for general revision of internal revenue laws.

"The senate has decided to take up the internal revenue bill and pass it ahead of the tariff bill. I think that is a most serious mistake. The manufacturers of this country can pay no profits until they are given an opportunity to make money."

Three hundred million dollars worth of foreign goods are being imported monthly by this country, most of which could be made here.

"There is not a manufactured article produced in the United States," he continued, "in which the labor cost is less than 90 per cent of the total cost, following the raw material from start to finish. Now if this is true, of the \$300,000,000 that we are sending abroad each month to buy foreign goods, \$250,000,000 is going out from the people of the United States to employ German, French, English, Japanese and Chinese labor, while our laborers are walking the streets."

He said that under free trade we must come to a common level somewhere if we compete with all the countries of the world. German labor is getting from 60 to 65 cents a day in gold for ten or twelve hours. Japanese and Chinese labor is receiving 12 to 18 cents a day for twelve hours.

"If we had to be placed on a par with the imports from those countries," he asked, "do you believe we could lift those foreign countries up to our standard of living? NO. We have got to come down to a common level somewhere, but we are not ready to do that, and we are not going to do it."

While it is hoped the new tariff bill will curtail imports, the speaker declared there are no rates in the law that are prohibitive. America never has had and never will have a tariff law that will be an embargo on imports. But what is desired is to get as near as possible in imposing an import duty on foreign goods, one that will bring the cost to the foreigner up to the level of our cost of production. The only time an American is afraid of a foreigner is when the foreigner, under our laws, has an advantage of him.

"Some people," said Mr. Fordney, "are opposing American valuation. Some of the great importers. Some have even sent out circulars appealing to you to the merchants of the country, the manufacturers, to urge your Congressmen to oppose American valuation. Why?"

"Last year in the customs office of New York alone there were 5,400 cases of under-valuation, and this year they are

running at the rate of 500 cases a month. Under-valuation means profit.

"They say we cannot take care of some articles of import because we do not know their values. How ignorant we are! We now accept the foreigner's statement. Why not accept our own? Haven't you more confidence in yourself than in a foreigner?"

"There is another good reason why we should have American valuation instead of foreign valuation. There is an exchange value of foreign money, a most troublesome question for us in equitably arriving at the correct values. Foreign moneys have different purchasing values in the countries of their origin than the exchange value over here. It is therefore most difficult for our customs collectors to determine those questions.

"American valuation will fix the valuation upon the gold dollar. Every dollar of our money since 1896 is worth one hundred cents because it is all redeemable in gold. We will eliminate those exchange values of foreign money by American valuation."

He said there were some features of the proposed tariff law that still needed revision. He mentioned the woolen schedule particularly and declared that if the senate changed it for the better, which was likely, he would do his part as one of the conferees when the bill reached that stage. The present law removed the duty and crippled the industry with the result, he said, that every sheep west of the Missouri River this spring was mortgaged for \$45.

William Butterworth of Moline, Illinois, president of the conference, declared wages and freight rates were hobbling manufacturers.

"It is absolutely impossible for the manufacturers of the country to start up under present handicaps, such as the present rates of wages, and the awful taxation burden and interest rates," he said. Some industries have been able to reduce wages, while others have held them up causing great dissatisfaction among workers who were cut. High wages are being paid by transportation systems, and the mining and building trades, the speakers said, adding that it is time for serious consideration of the question.

"I am satisfied that unless something is done to bring about lower freight rates that we cannot hope to move, especially in our industry (agricultural implements). Our factories in this industry have not been going since last April. I think relief has got to come largely from transportation, with further aid through tax revision." ***

Contract Awarded for \$240,000 Office Building Addition.

Tulsa, Okla., October 8—[Special.]—Contract has been awarded Geo. W. Langford Co., 312 Columbia Bldg., Louisville, Ky., for the construction here of an office building addition for Dr. Walter E. Wright at a cost of \$240,000. The structure will be 46 by 104 feet and 8 stories high, of concrete frame with Barrett specification roof. Plans for the structure were prepared by Rush, Endacott & Rush, architects. 101-4 Lorton Bldg., this city.

Plans for a Lime Plant

Richard K. Meade & Co., chemical and industrial engineers, Baltimore, Md., have been retained by the Bathurst Company, Ltd., Bathurst, N. B., to prepare plans and specifications for a lime plant to furnish lime for their pulp mill. The plant will include two of the latest type Meade kilns equipped with automatic stokers and induced draft. The stone will be handled by means of a platform elevator and the buildings will be of reinforced concrete. There will also be a reinforced concrete pocket for coal.

How an Atlanta Firm is Adding to Wealth of South— Large Building Operations Financed by Sale of Securities in All Parts of the Country.

An Atlanta firm, G. L. Miller & Company, has achieved remarkable success in bringing money into the South for investment in securities based on building operations, especially for the erection of hotels, apartment houses and important business structures. For some years this concern has been carrying on an aggressive campaign for placing securities of this kind among clients in all parts of the United States, bringing in the aggregate a good many millions of dollars into the South. It is a work which means much for Southern prosperity, for the greater amount of capital that can be placed in building operations of this kind, the greater will be the progress of the South. There is a large amount of Southern money available for such securities when properly handled but there is a still larger reservoir of capital in the West and in the East, which can be utilized in work of this kind.

Some weeks ago we published an illustration of the Cecil Hotel, a superb nine story Atlanta hotel with 200 rooms, financed by Miller & Company through the handling of its securities. At the time it was proposed that \$300,000 of bonds should be issued on this building; bankers and investment experts were doubtful as to the feasibility of placing the bonds, but Miller & Company advise that they were all sold within sixty days.

Shortly thereafter new construction enterprises were undertaken and the Belmont Apartment building in Atlanta, illustrated in the accompanying cut, was aided by the sale of \$110,000 of securities to the investment clients of Miller & Company. The Belmont will be a three story, reinforced concrete structure of Georgian design, finished with all

modern improvements. It is owned by R. P. Black and A. V. Gude of Atlanta, Mr. Black being an engineer and part owner of the Blackstone Apartments in that city. Mr. Gude is a member of the Gude Construction Company, which has the contract for building a \$1,000,000 addition to the Federal Reserve Bank of Atlanta, and which is also erecting the Belmont Apartments.

Even while the Belmont financing was under way, another deal was made for the handling of \$160,000 bonds



ALMADURA APARTMENT HOUSE, MEMPHIS, TENN.

Will contain apartments of three and four rooms. The property is appraised at \$320,000.

on a Memphis apartment, the bonds being underwritten by Miller & Company. This building will be known as the Almadura Apartment, to be of reinforced concrete



NEW CECIL HOTEL, ATLANTA, GA., SHOWING ADDITION VALUED AT \$600,000. FINANCED BY ISSUE OF \$300,000 BONDS WHICH WERE SOLD IN SIXTY DAYS.

and of fire proof construction, six stories high with electric passenger and freight elevators and other modern improvements. The building will be owned by John T. Marshall of Memphis.

In discussing in a letter to the MANUFACTURERS RECORD, some of their operations, Miller & Company write:

"The foundation of a real estate loan is the physical value of the building on which a mortgage is placed with extreme care with regard to sound construction. This firm finances only fireproof, well built structures, conservatively appraised and carefully located with a view to ample earning power. This policy has been amply justified in its results for by helping to prevent default or delay



BELMONT APARTMENT BUILDING, ATLANTA, GA.

Against a first mortgage on this structure, \$110,000 of bonds will be issued and sold by G. L. Miller & Co.

in payment of Miller bonds, it has enormously enhanced the prestige of these investments among conservative people all over the country. Most of them are persons of small means who demand safety first of all. This company has made a determined fight to market a sound investment on a national basis through no other means than advertisements and the mails. "Listed securities" have had a great slump and millions have lost heavily with their income reduced and their confidence shaken but we have developed a class of investors practically devoid of the speculative instinct, who are interested by the absence rather than the existence of market fluctuations and who as a rule have unostentatiously laid by a few hundred or a few thousand dollars which could be drawn out of its hiding place by a first mortgage plus a liberal interest secured on thoroughly safe property."

The operation of a company of this kind when thoroughly safeguarded proves valuable to the South and valuable alike to the investor.

Tampa Wants Soap Factory—An Opening for Manufacture of Cocoanut Oil

L. P. DICKIE, Managing Sec'y the Tampa Board of Trade, Tampa, Florida.

We believe that this matter of information would be interesting to some of your readers particularly those manufacturing soap or soap ingredients or those who may be interested in establishing such a plant.

Tampa, we believe, imports more coconuts than any other port in the country, with the possible exception of New York. During 1920 more than 6,000,000 coconuts were brought to the port of Tampa and this year about 4,000,000 coconuts will be the amount imported, and the prospects for 1922 are that importations will again be back to the 6,000,000 mark. This port is used because it is the most accessible to the southern countries growing coconuts on account of the fact that only small vessels can load that cargo in the waters of Central America and are not of such type as would make it profitable to undertake such a long trip to New York or New Orleans.

It is our information that about two per cent of the coconuts received are termed "cocoanut oil grade," this meaning that they are not first-class for shredded edible cocoanut, and their most valuable use would be for the manufacture of cocoanut oil. With this year's importations that would mean 800,000 coconuts fit only for that purpose and this would provide 80,000 quarts of cocoanut oil.

First, there is an opening for the manufacture of cocoanut oil itself, but the greatest opening is for a manufacturer to produce cocoanut oil and combine with that industry the manufacturing of soap.

In an investigation made it is reported that there is enough tallow available here in Tampa for the manufacturing of 600,000 pounds of soap annually. Rosin is, as most everyone knows, a product secured in large quantities throughout Florida. In fact, practically all the ingredients for the manufacturing of soap can be secured in this immediate territory, the possible exception being sodium silicate and other products used in small quantities that can be brought to Tampa at a very low transportation cost.

We realize that pointing out the advantages for manufacturing is not of interest unless advantages for marketing the products are available. And in this respect we can call to the reader's attention the large population of the South, the excellent facilities for distribution of the product throughout the country and the further attraction—which is probably the greatest—of the wonderful territory to the south, being the West Indies, the Island of Cuba and Central American countries, all of which have communication with this port capable of supplying the trade; and Tampa in the last few years has shown wonderful growth in the amount of business being done through this port with those countries.

We sincerely hope that there is enough matter of news interest in this letter to warrant its publication in your valuable paper and we sincerely hope that it will result in adding to the industries of the South by the bringing in of another soap factory to this vast territory being fostered by the MANUFACTURERS RECORD.

Over \$6,000,000 in Columbus Building This Year.

Columbus, Ga., October 6—[Special.]—More than \$6,000,000 is involved in building activities during the first nine months of this year, according to an estimate made by R. M. Harding, manager of the Columbus Power Co. Residential construction is valued at \$1,000,000; municipal, \$675,000; industrial, \$2,600,000; utilities \$840,000; business buildings \$930,000. Under municipal construction activities are four school buildings, \$200,000; paving, \$300,000; bridge, \$150,000; and fire station, \$25,000. Industrial projects include \$2,000,000 expended by the Bibb Manufacturing Co., \$500,000 by the Columbus Manufacturing Co., and \$100,000 by the Perkins Mill. Utilities work includes Howard Bus Line, \$40,000; Southern Bell new work, \$100,000; and Central of Georgia roundhouse, \$500,000. Included in the business buildings are structures costing from \$20,000 to \$250,000 each.

Electric Power Transmission System Plans Extension.

Boquillas, Mexico, Oct. 4—[Special.]—It is planned by the Canadian Power Company to extend its electric power transmission system from its hydroelectric plant here to a number of towns and mining districts, in addition to those which it already serves. The dam which the company built across the Conchos river at Boquillas for the purpose of storing water for operating the hydroelectric plant cost approximately \$11,000,000 including the plant. Below the great water storage reservoir is approximately 200,000 acres of rich valley lands which are susceptible of reclamation by irrigation. The State and Federal governments are now considering building a system of canals and ditches to convey the water over the lands and to colonize with farmers.

Texas View of the Fight to Save American Farmers and American Industry

Colonial Trust Company,

Hillsboro, Tex., Oct. 10, 1921.

Editor *Manufacturers Record*.

I have been and am very much interested in the fight that you are making for the return of prosperity. Without the life blood of credit and without protection of the great producing element of the Nation from competition of the cheapest producing and lowest standard of living countries on the earth, it seems to me we must adjust ourselves to their standard of living and the American farmer must cease to be of the same character of manhood he has been in the past and content himself to become of the same class as the peasantry of the other nations of the earth.

I am particularly interested in your editorial of August 4 in which you ask why should protection of American industries be subordinated to interests of importers and international financiers by the daily press of New York. I happen to be in the cotton oil business. I saw for one year more than two million barrels of oriental vegetable fats imported into this country and, within the last two years, free of duty, that did such injury to the cotton oil industry that it will take years to survive. I saw the farmer's seed within that same period decline from \$70. to \$12. per ton. Probably the extreme low price was the result of hysteria aggravated by want of credit.

I wish that every man in this country might read soberly and carefully the editorial above referred to, but unfortunately the great mass of our people will not see it and unfortunately they have very little to do with the laws that are enacted or the making of the economic conditions under which they live.

The emergency tariff bill now in effect places such a tariff on these oriental vegetable fats and the substances from which they are made as to give reasonable protection to the producer of cotton seed, peanuts, live stock and dairy products in this country, but the permanent tariff bill has reduced this duty on the fats themselves and provides for the importation of the substances from which they are made free of duty.

It seems to me that the leaders of economic thought and the leaders of big business have a frightful responsibility before them through the power that they possess and the influence that they do wield and that the press likewise of the country has a frightful responsibility in moulding public sentiment that must determine our policies for years to come and may mean such a change that we will no longer be able to remain a self-contained nation.

Further deflation or attempts at deflation is nothing short of a crime. With the fixed tax charge that the people must pay as a result of the war, with the increased transportation charges that cannot be reduced except in part, it seems to me that it is impossible for us to pay the debts incurred with the same level of prices that we had before the war.

I see no possible way, if the idea is to prevail that the American farmer is to continue to produce without profit and even at a loss, that industries can revive and work commence. While the farmer's condition is deplorable and he cannot pay his debts nor can he buy what he really needs and must use his old implements that ordinarily would have been discarded a year ago, he nevertheless, has about him the elements of life and will maintain an existence, such as it is, but how the man who labors in the factory to produce what the farmer buys is to find employment is beyond me, nor do I see how there can be any revival of business without the life blood of credit, which has been withdrawn either from lack of faith on the part of those who extend credit or from its initiation in an effort to bring down prices.

When a man is sick unto death the doctors stimulate

circulation and attempt to bring a reaction, but in the crisis that we are passing through we would withdraw what little stimulant the patient may already have.

I just wanted you to know that I have appreciated the efforts that you are making and I trust that this letter of commendation will encourage you to keep up the fight you are making for American industry and the American farmer.

ED. WOODALL,

Secretary and Treasurer.

Building Active at Palm Beach and West Palm Beach.

Palm Beach, Fla., October 8—[Special.]—During the first nine months of this year the valuation of new building undertaken here and in West Palm Beach involves the expenditure of upwards of \$2,000,000. With the exception of one month the volume of new building started last month was the greatest in the history of the city. The total for West Palm Beach in September was \$145,270, while in this city the amount involved is \$55,000. The grand total representing new construction, addition and alteration during the past nine months for Palm Beach and West Palm Beach is \$870,000 and \$975,000 respectively.

International Cotton Federation's Half Yearly Statistics of Cotton Consumption and Stocks

Manchester, Sept. 20—[Special.]—Mr. Arno S. Pearse, the general secretary of the International Federation of Master Cotton Spinners' and Manufacturers' Associations, has this week published statistics relating to the consumption of cotton for the half year ending July 31, 1921, and stocks of cotton in spinners hands on August 1, 1921. In view of the present crisis in the cotton industry throughout the world questions were introduced in the inquiry forms sent to spinners asking for the number of spindles stopped, and the hours during which they were idle. These points have been answered satisfactorily by most countries. The returns have been tabulated and show that with regard to Great Britain in the half year ending July 31, the amount of short time amounted to 12.92 weeks against 6.04 weeks in the previous half year. The figures for France are 6.92 against 2.3; Germany 5.48 against 7.5; Spain 9.17 against 4.7; Belgium 12.94 against 7.5; Switzerland 3.39 against 1.39; Japan 21.25 weeks against .09 weeks.

The consumption of raw cotton throughout the world during the half year ending July 31, amounted to 7,357,212 bales. Of this amount Great Britain used 630,230 bales; France 251,935 bales; Germany 457,257 bales; Italy 289,044 bales; Spain 117,529 bales; Belgium 82,286 bales; India 904,181 bales; Japan 971,654 bales; and the United States of America 2,540,000 bales.

Stocks of cotton in the hands of spinners throughout the world on August 1, amounted to 3,926,619 bales. Of this amount Great Britain held 296,997 bales; France 84,642 bales; Germany 176,287 bales; Italy 170,780 bales; Spain 85,573 bales; Belgium 59,673 bales; India 845,369 bales; Japan 700,846 bales; China 186,128 bales; and the United States of America 1,102,000 bales.

There are now in Great Britain 56,140,738 spinning spindles, and the Federation has obtained returns from the owners of 49,740,631 spindles. These consist of 38,961,707 mule and 10,778,924 ring spindles. Throughout the world there are 152,317,054 spinning spindles, and the Federation has obtained returns from the owners of 129,458,472 spindles.

With regard to the short time movement in England the stoppages are equal during the half year to over 620 hours. Practically the entire industry has been suspended for a period of nearly thirteen weeks of 48 hours. More than 2,000,000 spindles have gone out of existence during the last year.

Diversified Farming Saving the Day in Alabama—An Optimistic Outlook for Farmers.

By P. O. DAVIS, Extension Service, Alabama Polytechnic Institute, Auburn, Ala.

For little more than a year, or since the recent decline in prices began, the main question in the minds of practically all business men has been "When will normal conditions return?" This is a question which no one can answer definitely, but on the other hand it can be answered in a general way with a very large degree of accuracy.

Economists and others who have carefully watched the developments know full well that the slump in the prices of agricultural products was among the very first general warnings that the country was on the verge of a general business depression. It was logical that a depression should follow the business paralysis of the farmers, since agriculture is the great key industry, and the farmers are the largest class of consumers engaged in the great fundamental business of supplying food and clothing for the world.

To answer the question as to when business conditions will become normal, it is evident they will doubtless do so when agriculture and the farmers again return to a normal basis, which they are now rapidly doing.

To substantiate this statement I shall not use general agricultural statistics, but, instead of them, certain outstanding special facts which seem small at first but soon develop into large proportions. These facts will be taken from Alabama, which is a state of about average size, contains about an average number of people, and produces agricultural wealth each year which is not far from the average of other states.

As is generally known throughout the country, Alabama was for many years considered a one-crop state, and that crop was cotton. The coming of the boll weevil and the demands for diversified farming have greatly changed the conditions in Alabama. It is true that Alabama farmers received a terrible blow in 1920, but they were by no means "knocked out." On the other hand they seem to have caught a new vision of agriculture.

Of first consideration is the fact that in 1920 the Alabama creameries handled a total of 2,500,000 pounds of butterfat, whereas at the beginning, in 1915, there was no creamery in Alabama, and no cream produced on a commercial scale. Figuring the price of butterfat at 50 cents per pound it can be seen that the Alabama farmers received in 1920 \$1,250,000 for their cream.

But dairying it seems was really just started in Alabama in 1920. The Alabama County Demonstration Agents, who keep their fingers on the pulse of every agricultural development in their respective counties, are continually reporting dairy developments which are not abnormal, even though they may be unusual, but at the same time on a sound constructive basis.

A few extracts from county agents reports are sufficient to indicate just what this dairy development means. County Agent J. A. McLeod, of Union Springs, Alabama, says that: "Our creamery station is just a little more than two months old, but it is now shipping 600 gallons of cream, or about 1700 pounds of butterfat each week."

A report from County Agent E. R. Jamieson, of Hale County, concerning the cream station at Greensboro, tells a great story in a few words. This report says: "The Greensboro cream station was opened the last week in August, 1920, and on the first week the cream shipments netted the farmers \$13.04 at market prices. Eleven months later, on the last of July, 1921, the butterfat shipped from this station netted the farmers \$366.32."

These two reports are representative of the state. Never a week passes when County Agents do not report either that

a creamery station has opened, purebred dairy cattle purchased, the installation of cream separators, or other dairy equipment. These reports come from all sections, and by far the majority of counties of the state.

And the Alabama farmers are turning to other lines of farming. Dairying enables them to receive a check every two weeks, but they do not want to depend on dairying alone. In certain sections of the state hog growing has become extensively developed, and, to some extent, in all parts of the state. Not long ago the writer saw the farmers sell in one day, at one point, hogs that netted them more than \$23,000. It happened that this was one of the largest sales in the state, yet all the cooperative hog sales in the state in one year brought the farmers more than \$1,000,000, and individual sales doubtless increased this amount by tens of thousands of dollars.

From a crop practically unknown commercially ten years ago the sweet potato has developed in Alabama until the present crop is estimated by the Department of Agriculture crop reporters to yield 22,413,000.

Along with this great increase in the production of sweet potatoes for commercial purposes, sweet potato curing houses are being constructed for the purpose of curing them in the fall, storing them during the winter and putting them on the market throughout the year.

The method of constructing these storage houses has been so nearly perfected that when they are properly constructed and managed the loss is practically negligible.

Sweet potatoes are being raised all over Alabama, and in addition to the storage houses which were previously constructed the present indications are that new sweet potato storage houses will be constructed in the majority of Alabama counties this year.

Peach growing in Alabama is not being overlooked. According to the present indications, about 250 acres will be planted to peaches in Conecuh County next fall and winter; 200 or more in Tallapoosa County; 100 or more in Lowndes County and 200 in Covington County.

Along with peaches, strawberries are receiving more attention. Early in the spring a group of Jackson County farmers pledged themselves to plant more than 100 acres in strawberries this fall; and plans are now under way for a new strawberry planting in Limestone County.

Another important fact in connection with Alabama agriculture is that the farmers are practicing cooperation as never before. They are learning that by cooperating they can standardize their products, put a better quality on the market, receive the best market price on the day of the sale, and that by putting efficiency into their selling they are enabled to put their products in the hands of the consumer at a lower price than they would otherwise pay.

Like the farmers in all other states, the Alabama farmers are organizing for business purposes. They do not seek class privileges or class advantages, but are simply organizing for the purpose of handling their soil fertility, livestock, standardization, marketing, and other problems, in a business-like way, and thereby put agriculture on a more sound and profitable basis.

There are many other reasons for optimism in Alabama. But those already related are sufficient to indicate that the clouds which have kept the Alabama farmers in darkness for the past twelve months are now passing away and that with the continued cooperation of all other interests, agriculture will soon return to normal and along with it all other industries.

Extensive Power Plant Developments at Logan West Virginia—\$2,250,000 for Generating Plant—Plan 100 Miles Additional Transmission Lines.

Upwards of \$2,250,000 is being expended in the construction of an additional generating plant with an output of 30,000 kilowatts at Logan, W. Va., by the Kentucky and West Virginia Power Co., Inc.; plans are being made for construction of approximately 100 miles of additional transmission lines in Kentucky and West Virginia to supply coal operations and miscellaneous industries, and the erection of an additional power house in the Big Sandy District of Kentucky is contemplated, according to information furnished the MANUFACTURERS RECORD by E. A. Turner, superintendent of construction. The main offices of the company are in the Land Title Building, Philadelphia, and the branch office in Logan, W. Va. Francis R. Weller, Hibbs Building, Washington, is the consulting engineer.

The letter from Mr. Turner describing the work the company is now undertaking and has in prospect is as follows:—

"Please be advised that the Kentucky & West Virginia Power Co. is now building a 30,000 kw. addition to their generating plant at Logan, W. Va. The approximate cost of which will be in the neighborhood of \$2,250,000.

"We have also in prospect approximately 100 miles of additional transmission lines in Kentucky and West Virginia to supply coal operations and other industries now being developed in these fields.

"We now supply the Logan coal field from a large power plant at Logan, W. Va. We supply the Tug River or Williamson Coal field from a plant at Sprigg, W. Va. We also supply power to Kentucky River coal field with a power plant at Hazard, Ky.

"We are contemplating the construction of an additional power house in the Big Sandy district of Kentucky, in the vicinity of Pikeville, with transmission lines radiating in all directions from this point, and high voltage tie-lines to connect with the other power houses, which will constitute an extremely large transmission net work."

Building Activities Create Optimism in Nashville.

Nashville, Tenn., October 8—[Special.]—Commenting upon the record breaking building activities here during the past three months, C. C. Fuller, president of the Fuller-Cunningham Co. said recently:—"Three months ago, I told Nashville business men that we were going to have more building business than we could attend to this fall. Some men laughed at me. But surely the signs point to the fact that one of the biggest, if not the biggest industry in Nashville is the building business.

"People are feeling better—they are really optimistic and they are warranted in it, in my opinion. Most people who want to be busy can have their desire fulfilled to a very great extent.

"We have sold more furnaces this fall than during any corresponding period in the past four years. We had on October 1 more unfinished orders than usual at that time and the demand has not let up yet, as we sold four or five during the past week."

Will Manufacture Paper from Cotton Linters by New Process.

Chattanooga, Tenn., October 8—[Special.]—A new company to make paper from cotton linters is being formed here by Mercer Reynolds, of the Lookout Oil & Refining Co. It is known as the Southern Cotton and Paper Co., and is capitalized at \$200,000. Under the process which has been perfected by Mr. Reynolds, it is said that paper can be produced very economically in view of the big available supply of linters at the oil mills and to the special pulp machinery just designed.

Wide Possibilities in Utilization of Pine Stumps.

Hamlet, N. C., October 8—[Special.]—Recent developments made here by the Carolina Pine Products Co., which was established for the purpose of extracting turpentine from waste pine stumps, show many more latent possibilities of commercial value in the despised stump. Paints and stains are now being manufactured from the turpentine, base oil, and acids secured, and proving a valuable side line.

There will no doubt be a wider development along this line, as the work has passed the experimental stage, and there are hundreds of thousands of acres of cut-over pine lands in the South with this wealth only waiting to be tapped. The magic touch of science has transformed what was a liability and waste into an asset, as landowners are glad to get their land cleared free.

Home Building Boosts Building Activity in Memphis.

Memphis, Tenn., October 8—[Special.]—Building operations for September were double the number for the same month last year. 327 permits were issued for a total of \$708,720, including 102 dwellings. For the same month last year the total was \$343,195 representing 198 permits including 43 dwellings. Building permits for the first nine months of 1921 amount to \$6,399,825 against \$5,839,973 for the same period last year. Only 25 permits were issued for garages last month. Frame houses predominate numbering 56, stucco 7, brick veneer 38, and hollow tile 1.

\$800,000 OFFICE BUILDING FOR BEAUMONT.



To be erected at Beaumont, Tex., for San Jacinto Life Insurance Co. at cost of about \$800,000; 12 stories with foundation to carry 20 stories; structural steel and Bedford stone; Barrett specification roof; cement floors; metal ceilings and doors; Sanguinet, Staats & Gottlieb, Archts., Fort Worth and Houston; James Stewart & Co., Inc., Contrs., New York and Houston.

Trade Conditions in Palestine and Syria.

REMARKABLE CHANGE IN CONDITIONS IN THE NEAR EAST, FOLLOWING THE WAR—HOW AMERICAN FIRMS ARE NEGLECTING A PROFITABLE AND PATRIOTIC WORK.

Opportunities for American trade in the Near East are not appreciated as they should be, according to the testimony of A. B. Brassard, an alert American who has returned to New York from Syria on a business mission, and who has written the MANUFACTURERS RECORD an exceedingly interesting and enlightening communication. The letter telling of the great changes that are going on in Palestine and Syria, with their macadamized roads, automobiles, Pullman cars and modern conveniences, reads like a romance, an Aladdin tale, to those of us who are wont to visualize conditions in Palestine and Syria as practically unchanged from biblical times; but outside the flavor of romance, the interest of the letter as a narrative of tremendous changes that the war has wrought, there is an appeal to the business acumen and even patriotism of the merchants and manufacturers of America, an appeal which should be read with serious concern. If it should be that outside markets at this time, by providing an outlet for surplus productive capacity, could become a factor in hastening prosperity to the United States, it would seem only the part of wisdom to devise some means by which the conditions for doing business with such countries as desire American goods, can be met. Mr. Brassard, who is connected with the firm of J. Dillibourgo & Son, Beyrout and Haifa, writes from his home address, 307 W. 153d St., New York City, as follows:

"The present geographical districts of Palestine and Syria formerly comprised the province of Syria, under Turkish rule, and produced more than 40 per cent of the total Turkish Empire revenue. The prime motive in the building of the Bagdad railroad by the Germans was to make Syrian ports the outlet for the products of all the countries east of India. This section has always been famous for its fertility, and immediately after the Armistice England and France, the respective mandatory powers, took steps to encourage the introduction of modern methods. Development programs were adopted, and the results accomplished to date are little less than marvelous when one considers the primitive condition of the country before the war.

"In Palestine a standard gauge railroad connects the ports of Haifa and Jaffa with Jerusalem and interior towns and joins the Hedjaz railroad at Deraah, which runs between Damascus and Medina on the Red Sea. This is the only method of furnishing supplies to the interior of the new Kingdom of Hedjaz, as its ports of Jedda and Medina, on the Red Sea, have no facilities, and all goods must then be transshipped by camels to the interior. Furthermore, a line runs from Jaffa, or rather the junction point, which is named Ludd, to Kantara, Egypt, affording direct communication between all points in Egypt and Palestine. In other words, you can now step into your Pullman car in Cairo at six o'clock at night and get off the next afternoon in Jerusalem, after making a journey which is the equal of any our railroads afford.

"Wagon roads, which were very bad before the war, were in a deplorable condition after. This was the first condition remedied, and today a net work of very fine macadamized automobile roads exist, which accounts for the large importation of American automobiles during the past two years. A percentage of the revenues are set aside for this special purpose.

"The country was divided into districts under the direction of a supervisor, with the necessary corps of assistants, to inspect all seeds planted and teach the natives modern methods of agriculture. This has stimulated

farming and this year the yield per acre has doubled for barley and wheat. Tobacco and cotton have been introduced and promise to be very important factors in the near future, owing to the soil and climate.

"Telephone and telegraph communication has been established between all the important towns during the past year and other public service utilities are now in the course of construction. These include water, sewerage and electric light service.

"Plans have already been approved by the British Admiralty for the construction of modern ports for the towns of Haifa and Jaffa. It is proposed to make Haifa a naval base of about sixteen square miles in area, and forty million dollars was appropriated by the British. This will mean that England will then have direct land communication with India, as Mesopotamia and Persia are now under British rule.

"After the war the French found Syria in a better condition than the British found Palestine, as in pre-war days considerable French capital had been invested there. However, the resources of the country were still undeveloped and as soon as a stable government was established rapid strides were made to improve conditions. The Syrian is of an industrious nature and a high type of mentality, so he quickly realized that the salvation of his country depended upon the adoption of efficient methods. The French, therefore, obtained the utmost co-operation in their reconstruction plans, and Syria will undoubtedly be the most prosperous of French colonies within the next five years.

"The railroads are being widened to standard gauge and new lines constructed. The harbor facilities of the ports of Beyrout and Tripoli are being extended, while it is proposed to make Alexandretta the exporting point as the terminus of the Bagdad railroad. Syria is the great agricultural section of the Near East, and indications tend to prove that it will resume its place of biblical times as the leading nation of the Eastern Mediterranean.

"The financial condition of both Palestine and Syria is very good, even though no exports have been made since the war. In Palestine, the Zionist movement has spent very large amounts, which were donated mostly in this country. In Syria the French government has been spending approximately \$100,000 a day for the maintaining of the army of occupation. This has brought too much money in the country and has created excessive prices for imported commodities. For example, during the past year automobiles costing \$1,500 landed Beyrout, were sold at a profit of 75 per cent to 100 per cent. However, this condition has been remedied and now the profits are on a more legitimate basis.

"A few large representative American corporations have seen the possibilities of the Near East and have established their own branches during the past year. Our firm, knowing the prestige that American goods carried in this section, realized that the time was opportune to establish connections with reputable manufacturers, so the writer, who is an American, came to America especially for this purpose. I regret, however, to state that most manufacturers still believe they can conduct their foreign trade on the war period basis. They are still insistent upon payment before goods are placed on board ship. This method cannot promote foreign relations when England, France and Germany are willing to send goods on consignment basis, and in many cases to firms that have no financial responsibility whatever. In my opinion this is

one of the reasons why we in America are now experiencing such a business slump. With the fine efficiency produced by the war we can now only consume 80 per cent of our production, and unless we are willing to adopt the policy of the Standard Oil Co. and the International Harvester Co. of extending foreign credits this country will remain in its present state.

"Our firm, with fifty-three years of consecutive business experience in the Near East, enjoys the best financial and business reputation, and although we are willing to agree to reasonable terms in order to make connections with American firms, I fear we will be forced to look to European markets for the needs of our clients."

Kentucky Road Contracts Recently Awarded Total Upwards of \$1,000,000.

Frankfort, Ky., October 8—[Special.]—Contracts totaling \$958,845 were awarded recently by the State Highway Commission. Twenty miles are on the Ohio River road, 18 on the Mayo Trail, 9 on the Pikesville-West Virginia road, and 7 on the Dixie Highway. The latter is on the Lexington Pike in Madison and consists of reinforced concrete let to the Carey-Reed Construction Co., Lexington, for \$230,111. The remainder is grading and drainage, 9 miles in Pike, let to the Dempsey Construction Co., Knoxville, for \$246,845; 12 miles in Lawrence let to R. G. Hill, Tazewell, Tenn., for \$246,114; 12 miles in Breckinridge let to J. C. Williams, Winchester for \$114,469; and 7 miles in Hancock let to Williams for \$85,765, and 9 miles on Union let to Costello Bros. & Mays, Knoxville at \$36,041.

Number of Houses Erected in Birmingham for Past Twelve Months Trebles Previous Year.

Birmingham, Ala., October 8—[Special.]—According to figures just made public the number of houses erected here during the fiscal year ending September 30, were more than treble the number erected during the preceding fiscal year. Value of residence construction for the past 12 months was \$2,045,802 representing 1,241 houses. During the preceding year 456 houses were erected at a cost of \$1,482,388. Brick and tile structures numbered 74 costing \$1,341,500; there were five apartment houses, \$122,750; this compares with 74 brick and tile structures including apartments, built during the fiscal year 1920, the total cost being \$1,460,867.

The high record established in 1921 is attributed to the wave of home building which began here early in the year and continues unabated.

Heavy Grain Traffic in Southwest.

Amarillo, Texas, Oct. 8—[Special.]—W. A. Lehman, general manager of the Southwestern lines of the Santa Fe system says:

"The railroads in the Southwest deserve credit for moving an enormous quantity of grain since July 1. The Santa Fe Railway loaded 22,546 cars of grain on its Western lines alone since July 1 to Sept. 15 as against 9,384 cars in the same period last year, approximately 28,000,000 bushels compared with about 12,000,000 a year ago. There is a heavy movement of grain from the plains of Northwest Texas. Since July 1, the Santa Fe has moved over 3,000 cars of grain or approximately 10,000,000 bushels out of this district as compared with 3,786 cars during the same period last year."

\$500,000 Building for Memphis, Tenn.

Memphis, Tenn., Sept. 24—[Special.]—Bids will be asked about October 24 for erection of a club building for the Catholic Club Building Assn. at a cost of \$500,000. Regan & Weller are the architects and Henry J. Kramer, associate. The building will be of steel and concrete construction with composition roof, and two elevators.

180 Mile Oil Pipe Line to Cross Tehuantepec Isthmus, Connecting Atlantic and Pacific.

Puerto Mexico, Mexico, Oct. 3 (Special). It is stated here that the oil pipe line which is to be constructed from this Atlantic port to Salina Cruz, on the Pacific, will be approximately 180 miles long. Its route across the Isthmus of Tehuantepec will, for the most part, follow the right of way of the National Tehuantepec Railroad. Although the concession for the proposed pipe line was obtained in the name of Clay T. Yerby of Los Angeles, Cal., it is reported that it will be utilized by the Mexican Petroleum Company. J. P. Flynn, who represented Mr. Yerby in negotiations with the Mexican Government for the concession, is a well known American mining man who has been operating in Mexico for nearly thirty years. Under the terms of the concession one or more pipe lines may be laid. It is stated that the first of these pipe lines will be of 10-inch diameter and that others will be added as the trans-isthmian traffic develops. Extensive loading and unloading facilities will be installed at the two deep-water termini. One-half of the capacity of the pipe line shall be used as common carrier, thus making it available to all companies that may want to transport oil through it. The other one-half shall be devoted to the pipe line owner's exclusive purpose.

It is expected that the construction of this pipe line will be the means of greatly increasing and expediting Mexican oil shipments to the Far East and to West coast points of Mexico.

State Sanatorium to Cost Over \$544,000.

Jackson, Miss., October 8—[Special.]—The Smith Co., industrial builders, of Birmingham, Ala., have the contract for the erection of a sanatorium in Simpson County, Mississippi for the State Bond Improvement Association of this place. The buildings without equipment will cost approximately \$544,000. There will be five structures ranging from one to three stories high, of brick and reinforced concrete with tile roofs. Freight and passenger elevators will be installed. Ben Price, Jefferson County Bank Bldg., Birmingham, Ala., is the architect.

Texas Highway Contracts Awarded.

Fort Worth, Texas, October 8—[Special.]—Contract for the building of the Hicks road extending from North Fort Worth to the Wise County line and in Kuteman cut-off, extending from a point east of Benbrook to the Park County line, have been awarded by the Commissioners Court. The Hicks road contract went to the H. K. McCollum Construction Co., on a bid of \$113,325, while on the Kuteman cut-off the General Construction Co., was the successful bidder at \$218,026.

200 Room Hotel Planned for Frederick, Md.

Frederick, Md., October 1—[Special.]—Plans are nearing completion for the erection of a 200-room hotel in this city by the Frederick Hotel Co. The main floor of the structure will be fitted up for stores. The hotel will be so constructed that additions can be made as demands for space warrant. Emory L. Coblenz is chairman of the hotel executive committee, and C. S. Gregg, secretary.

Electro-Chemists to Meet in Baltimore.

At a recent meeting of the American Electro-chemical Society, it was decided to hold its annual meeting in Baltimore next April. The secretary of the Society is Dr. Jos. W. Richards, Bethlehem, Pa.

Henry Ford's Muscle Shoals Offer and Why It Should Be Accepted.

James E. Smith, of St. Louis, a member of the special committee appointed by the Mississippi Valley Association to investigate the Muscle Shoals dam and nitrate plants, which committee made a unanimous report recommending the immediate completion and operation of the enterprise, has issued a detailed statement concerning the offer of Henry Ford, of Detroit, to purchase the property, and says that it should be accepted.

Mr. Smith, who is a business man of long and important experience, and for years vice president of the Simmons Hardware Company, says that the idea of scrapping the plant, as had been suggested, "was repugnant and unthinkable" to the committee, whose report was based upon "the belief that the Government would find a way to interest some capable and responsible party or parties in taking it over, when finished, and continue its operation and thus convert a big war loss into a permanent and profitable investment which would greatly benefit the whole country."*

"The judgment of the committee has already been fully justified as a splendid offer for the entire property," (the Ford offer), "has been in the hands of the Secretary of War since July 14, for his consideration."

In the Chief Engineer's report to the Secretary of War, recommending acceptance of the offer, he says: "The total payments of all kinds to the Government proposed by Mr. Ford during the period of 100 years, aggregate \$214,540,000. It further leaves at the end of 100 years 850,000 H. P. developed, with improved navigation of 150 miles of the Tennessee River and its tributaries, all free of any cost to the United States."

Expenditures thus far on the Muscle Shoals project total over \$105,000,000.

Mr. Smith also says, "Mr. Ford proposes to purchase outright the two nitrate plants and to put the largest of them—No. 2—into use for the manufacture of fertilizer products which he agrees to sell to the farmers of the United States at a price not exceeding eight per cent above the actual cost."

"He proposes also to enlarge Plant No. 1 and put it into use for the extension of his own business."**

"He further proposes to sell for industrial purposes, at a reasonable price a certain proportion of the water power to be created to those who may wish to use it."

It is estimated, according to Mr. Smith's statement, that the completion of Dam No. 2 will cost about \$20,000,000 which together with present expenditures and the building of Dam No. 3 would make a grand total of from \$133,000,000 to \$135,000,000, but he notes that these great nitrate plants, while being usefully operated in peace, could be held in reserve by the Government to make explosives in time of war and besides make us independent of the Chile nitrates upon which we are still dependent.

Again he notes that the Old Hickory powder plant near Nashville, which cost the Government \$80,000,000, was sold outright for \$3,500,000, but Mr. Ford proposes to reserve the Muscle Shoals plant for Government use when needed. He believes that when the Ford offer is fully understood by the public they will demand its prompt acceptance.

Mr. Smith incidentally remarks that this great undertaking "has been the most maligned, misrepresented and misunderstood enterprise that has ever been considered by the American people."

Contract Awarded for \$175,000 School Building.

Anniston, Ala., Sept. 24—[Special.]—Contract has been awarded McDewitt-Fleming Co., of Chattanooga, Tenn., for the new high school building here, which will cost complete approximately \$175,000. It will be of brick trimmed with Indiana limestone, containing 10 class rooms, study halls, laboratories, an auditorium and a gymnasium.

Arkansas Company to Bid for Muscle Shoals Plant.

Little Rock, Ark., Oct. 3—[Special.]—Arkansas capitalists identified with the Arkansas Light and Power Company, also Eastern capitalists, are negotiating with the Government for the leasing for 50 years of the gigantic water power project and nitrate plant at Muscle Shoals, Ala., and will meet Secretary of War Weeks to discuss the matter, it was announced here Saturday.

Arkansans interested in the move include H. C. Conch, president of the Arkansas Light and Power Company, Pine Bluff; C. S. McCain and W. C. Ribenack of Little Rock. Eastern capitalists who are taking a prominent part in the project are John Nickerson and John Watkins of New York, and Gustavus Taylor of Providence, R. I.

Plans of those interested in the project, if successful, would provide cheap electric power for the eastern half of Arkansas, for Louisiana, Tennessee and Alabama.

Muscle Shoals is only about a hundred miles from Helena, and could easily be connected with many of the power plants in Arkansas, and could serve the 450 miles of transmission lines in this state operated by the Arkansas Light and Power Company.

Not very many details of the offer of the Arkansas capitalists could be obtained, but the basis upon which negotiations will proceed contemplate the completion of the plant by the Government for the sum of \$35,000,000, payable in five annual installments of \$7,000,000 each, and the leasing of the property for a period of fifty years.

Glass Plant to be Erected in Jacksonville

Jacksonville, Fla., October 8—[Special.]—The Tidewater Glass Co., with offices in the Bisbee Bldg., here has purchased a valuable water front site for the construction of a large plant. The site lies between the municipal dock and the creosoting plant of Eppinger & Russell. Duval county sand will be used in the manufacture of glass.

Plans are being prepared by H. J. Klutho, architect, for the first unit which will have a capacity of 50 tons of products every 24 hours; additional units will be added from time to time until a capacity of 200 tons daily is reached. Preserving glass ware, milk bottles, fruit jars, tumblers, soft drink and beverage bottles, packers ware, druggists bottles, etc., will be manufactured. Plans for docks are being made and construction work will begin shortly.

The supply of sand is large and analyses show it to be of good quality. The demand for the output will also be large, it is declared since practically all of the present supply of such products comes from the North.

Raleigh Building For Month Exceeds \$900,000

Raleigh, N. C., October 8—[Special.]—Building permits issued here during last month exceed in value the total for the preceding 8 months of this year, amounting to more than \$900,000. Two state buildings are included in the total, one being the \$600,000 building of the North Carolina State Hospital, for which J. E. Beaman is contractor, and the \$195,000 structure for the North Carolina State College to be erected by C. V. York. Many business houses and residences are being erected in the city.

Will Build 2,500 Horse Power Hydro-Electric Plant.

Allany, Ga., October 8—[Special.]—The Southern Engineering Corporation, E. S. Killebrew, president, states that the River Falls Power Co., River Falls, Ala., will construct a 2,500 horsepower hydro-electric plant on the Conecuh River at Gantt, Ala. The construction will be undertaken by the company's own forces, and the necessary machinery will be purchased in the near future. Specifications are in the hands of the Southern Engineering Corporation.

THE IRON AND STEEL SITUATION

A Stiffening Market in Iron and Steel, Although Small Increase in Production is Forecast for Immediate Future.

Pittsburgh, Pa., October 8—[Special.]—From the monthly blast furnace report of the Iron Age it can be computed that pig iron production in September was at the rate of 12,000,000 gross tons a year, this comparing with rates of 11,200,000 tons in August and 10,200,000 tons in July, the low month in many years. From August to September production by the steel works blast furnaces increased 4.4 per cent while production by merchant furnaces increased 19.4 per cent, making an increase in the total of 6.7 per cent. Production now is above the September average, and is probably at fully 13,000,000 tons a year. Adrian furnace, a merchant stack near Pittsburgh, is blowing in, and has bought several lots of Connellsville coke at \$3.25 to \$3.35.

Steel ingot production is practically stationary, at 33 to 35 per cent of capacity, this showing a good gain over the low point, at the middle of July, when the rate was under 20 per cent. Little further increase in steel production is expected for the remainder of the year, but a large increase in demand is counted upon for early spring. There seems to be no doubt that the gains the steel industry has recorded to date will easily be held.

Following the heavy bookings in sheets in anticipation of the advances of \$5 a ton in the various grades of sheets two or three weeks ago the sheet mills have a heavy operation, and a little business is now coming in at the advanced prices. The American Sheet & Tin Plate Company (Steel Corporation) has been operating its sheet mills at about 90 per cent in the past week, the heaviest operation since last winter, while the independents are averaging 75 per cent or more. The tin plate mills are running better week by week lately, being now at about 65 per cent, and wire mills are at about the same rate. Pipe mills are averaging between 40 and 50 per cent. The rail, plate and shape mills have a very light operation, and as these are the great tonnage lines the average of all steel production is pulled down.

Pipe mill products, including standard steel pipe, boiler tubes and oil country goods, are firm in price since the revision in lists three weeks ago whereby formal reductions were made from the lists of July 7. Line pipe prices are strictly competitive, as formerly.

In bars, shapes and plates mills are making an effort to firm up in prices, by gathering in as much business as possible for the remainder of the year. It requires a fairly attractive order to bring out a price of \$1.60, which was being shaded in some cases two months ago, while the mills evidently desire to get up to a basis of \$1.65 for bars and \$1.75 for shapes and plates. Production of these lines has been at a loss lately, but with a fairly full operation there might be some profit at \$1.65 for bars and \$1.75 for shapes and plates.

The railroads are buying car repair material in a moderate way and have slightly reduced the percentage of bad order cars. Railroad buying of steel products in volume is not to be expected for several months. While railroad earnings have been improving the year will show a large deficiency from the 6 per cent expected when present charges were established in August 1920. July earnings were at the rate of 4.5 per cent a year, but the seven months through July showed an average of only 2.2 per cent.

The Pittsburgh-valley pig iron market is steady and producers expect prices to advance slightly on the next buying movement. A sale of 500 tons of Bessemer is reported at \$20, valley, the regular market since August 1. All the sales of basic in September appear to have been at \$19.25, valley, which compares with a low point of \$18 at the begin-

ning of July. The asking price has been \$20 for nearly two months. Foundry remains firm at \$21, valley, this comparing with the recent low point of \$19.50.

Signs of Reviving Life in Southern Iron and Steel.

Birmingham, Ala., October 8—[Special.]—Sales of pig iron continue, though not in very great tonnages, with the base price of \$19 per ton, No. 2 foundry, as the minimum and in several instances, like special analysis and special brands of pig iron commanding from \$1 to \$2 per ton premium. The production in this district is being increased and in addition to the Blast furnace of the Republic Iron & Steel Company at Thomas and the furnace of the Alabama Company at Gadsden, which resume operations in the next few days, the Shelby Iron Company, Morris Bush interests, will start up one of their furnaces at Shelby, Ala., before the end of the coming week. The Woodward Iron Company has started a third furnace on foundry iron. The resumption of operations of these furnaces means resumption in other directions, improvement in the pig iron market means improvement in other lines. The Gulf States Steel Company, (Alabama City steel works) has started up three of its open hearth furnaces. The Imperial Coal & Coke Company, (Morris Bush interests) has started up its 103 bee-hive coke ovens at Bradford. The Semet-Solvay Company has started up some of its by-product ovens. Iron ore production has been materially increased this week.

Cast iron pipe and soil or sanitary pipe works of this district are piling up a little pig iron in anticipation of continued activity, there being a fairly good demand for these products. Cast iron pipe shipments are still in quantity. Soil pipe makers feel confident there will be warrant for active production for some time to come, the building activity throughout the country requiring a large amount of sanitary pipe.

Announcement is made that the Agricola Pipe Shop, Gadsden, considerably damaged by fire the past week, will be rebuilt.

Steel mill operations are still showing improvement, the Tennessee Coal, Iron & Railroad Company big works at Ensley and Fairfield operating in many departments, with some new business being reported.

Coal production in Alabama is showing steady improvement and the coke output is in larger volume. Bee-hive coke production now is greater than it has been in more than six months. Coke prices are firm again on a \$6 per ton base for foundry iron and \$5 on the furnace. There is some coke leaving the district.

The scrap iron and steel market shows improvement again and foundries and steel mill consumption increasing. The scrap iron and steel prices show but little change for the week, but a better feeling is apparent and the quotations are firmer. The fact that cast iron and soil pipe plants are steadily turning out their product and that finishing mills in iron and steel are showing signs of revival give the old material dealers hope that a better condition is in sight for them, too. Quotations:

PIG IRON.

No. 2 foundry, 1.75 to 2.25 per cent silicon, f. o. b. furnaces, \$19.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$19.50; iron of 2.75 to 3.25 per cent silicon, \$20.00; iron of 3.25 to 3.75 per cent silicon, \$20.50; iron of 3.75 to 4.25 per cent silicon, \$21.00, charcoal iron, \$35.00, f. o. b. furnaces.

OLD MATERIAL.

Old steel axles.....	\$17.00 to \$18.00
Old iron axles.....	18.00 to 20.00
Old steel rails.....	12.00 to 14.00
Heavy melting steel.....	12.00 to 13.00
No. 1 R R wrought.....	13.00 to 14.00
No. 1 cast.....	17.00 to 18.00
Stove plate.....	13.00 to 14.00
Old car wheels.....	14.00 to 15.00
Old tramcar wheels.....	13.50 to 14.00
Machine shop turnings.....	4.50 to 5.00
Cast iron borings.....	4.50 to 5.00

RAILROADS

Greater Plans for Handling Coal Traffic.

Harlan, Ky., Oct. 8—[Special.]—President W. L. Mapother, of the Louisville & Nashville Railroad Co., in an address to the Coal Operators Association of Harlan County, said that the company had mapped out a program for the next five years calling for an expenditure of \$27,686,000, in the eastern part of Kentucky unless barred by adverse conditions now unanticipated and certainly unforeseen. Furthermore, in referring to the greater production of coal he said that Harlan County's increase over last year was 53.1 per cent, while the increase in Eastern Kentucky as a whole was 181 per cent in the same time.

The Louisville & Nashville Railroad Co., it will be recalled, made the announcement in December of last year that it had arranged for the execution of an improvement plan aggregating \$33,000,000, and that \$11,000,000 of this large sum would be devoted to the improvement of coal transportation facilities from the eastern and southeastern parts of Kentucky, the work including additional terminals and yard facilities, construction of second track and other betterments. Besides more than \$20,000,000 of equipment was in the plan, \$6,680,000 of which would be required for the coal traffic named.

According to the figures given by President Mapother, there has been about \$10,000,000, added to the general estimate of improvements announced late last year. The Louisville & Nashville Railroad has made and is making experimental surveys in the eastern part of Kentucky with a view to constructing new lines whenever new coal developments may demand them.

Results of Street Railway Convention.

A summary of results of the annual convention of the American Electric Railway Association held last week in Atlantic City shows that conclusions were attained as follows:

Street railways will soon be called upon to reduce rates of fare and they must determine ways to reduce operating and other expenses.

Publicity must be encouraged generally so that the people will know the facts about their street railways, that their confidence can be secured, for establishment of the street railway industry upon a sound financial basis waits for public confidence.

It is realized that motor busses in co-operation with street railways are valuable, but jitney busses must, when necessary, be regulated to give fair competition.

Loss of passengers to privately owned automobiles must be compensated for by some method yet to be found.

Cultivation of a spirit of salesmanship on the part of street railway employees is essential so that passengers will receive polite and considerate service.

Co-operation between street railways and railroads generally was one of the suggestions presented so that freight arriving in cities might be carried over street railways to points nearer its ultimate destination, this avoiding a multitude of trucks and other goods-carrying vehicles upon the streets.

More Men Being Employed.

President Samuel Rea, of the Pennsylvania Railroad, says that the company has taken on 14,000 men since May 15, making the total force now employed 199,000 men. There has been a small seasonal increase in traffic and it is hoped that still more men will be needed. The new men will be chiefly employed to put in order idle equipment before winter comes. This, Mr. Rea says will help relieve the unemployment situation.

Baltimore & Ohio Buys 2000 Cars.

George M. Shriver, senior vice president of the Baltimore & Ohio Railroad, announces that the company has awarded contracts for purchasing 2,000 new freight cars, the order consisting of 1,000 box cars and 1,000 steel hopper cars. Of this total 500 box cars and 500 steel hopper cars will be built at the Baltimore plant of the Standard Steel Car Co. at Curtis Bay, while the other 500 box cars will be built at Madison, Ill., by the American Car & Foundry Co., and the remaining 500 steel hopper cars at Johnstown, Pa., by the Cambria Steel Co. The cars will cost a total of \$2,200,000, and the financing has been arranged through the National Railway Service Corporation.

Perishable Freight Movement Very Heavy.

Because of a very large increase in the amount of perishable freight in sight and to be moved during the next three months, the car service division of the American Railway Association has sent to operating officials of railroads throughout the country a letter urging them to do everything possible to secure prompt loading and unloading of refrigerator cars as well as their prompt handling in transit, and also to give preference in repair shops to that class of equipment.

It is estimated that the increase in the aggregate of perishable freight in sight is nearly 40 per cent as compared with this time last year. Estimated shipments for October from the largest producing sections total 44,469 cars, an increase of over 35 per cent, but this does not include potato shipments which are now moved in box cars, but which in colder weather must be moved in refrigerator cars.

Car lot movements of fruits and vegetables have been much heavier this year than last, for up to September 17, there had been moved 257,601 cars, an increase of more than 12½ per cent as compared with 1920.

Freight Traffic Increases.

Figures reported by the American Railway Association show that loading of revenue freight on the railroads during the week ended September 24 totaled 873,305 cars, an increase of 19,543 cars for the week and the largest number loaded in a week since November 20 last. Loadings of grain and grain products exceeded the loadings in the corresponding weeks of 1920 and 1919 and, excepting these, the largest gain over the previous week was in merchandise and miscellaneous freight, including manufactured products. Loadings of coal totaled for the week 171,474 cars, a decrease of nearly 44,000 cars as compared with the corresponding week of last year, although 5,416 cars more than the previous week. The number of idle freight cars on September 23 was 414,698, a decrease of 18,838 during the week, 213,545 of the total being in need of repairs.

The railway executives are urging heavier loading of refrigerator cars to enable the roads to move promptly the perishable freight offering and that which will be offered, the increase in this class of traffic being estimated at nearly 40 per cent as compared with the corresponding quarter of last year.

Tennessee Central Sale Again Postponed

No bids were received for the Tennessee Central Railroad when the property was offered at auction by the special master, Lyon Childress, at Nashville on October 1, so the sale has been postponed until December 1 on request of the Mississippi Valley Trust Co., of St. Louis. The upset price was \$1,500,000; and \$250,000 cash would have had to be paid by any purchaser. The road has been offered without result several times.

GOOD ROADS AND STREETS

Campaign on for Award of Road Contracts This Fall Instead of Next Spring—To Help Relieve Unemployment.

Washington, D. C., October 4.—[Special]—In line with the remedies suggested by Secretary of Commerce Hoover in his recent letter to the governors of the states for the relief of unemployment as well as the purpose of the unemployment conference now being held in Washington at the call of President Harding, road-building contractors and material men have begun an extensive campaign to bring about the awarding of road contracts this fall instead of next spring. Their argument is that a change of this character will not only afford continued employment for labor but will avoid a great fluctuation in the production of road materials.

Not only Secretary Hoover but Secretary of Labor Davis is taking considerable interest in the campaign. Four governors, Emmet D. Boyle of Nevada, Louis F. Hart of Washington, William C. Sproul of Pennsylvania and D. W. Davis of Idaho, have already announced publicly that they are in favor of extending the road-building period through awarding contracts this fall. Others who have gone on record in the same way are: Joseph R. Draney of New York, president, The Asphalt Association; L. E. Denton, secretary, Michigan Road Builders' Association; W. S. Keller, state highway engineer, Montgomery, Ala.; Thomas Maddock, state engineer, Phoenix, Ariz.; A. B. Fletcher, state highway engineer, and T. B. Stanton, assistant state highway engineer, Sacramento, Cal.; W. R. Neel, state highway engineer, Atlanta, Ga.; D. P. Olsen, director of highways, Boise, Ida.; Maurice B. Greenough, secretary, National Association of Paving Brick Manufacturers; O. A. Nix, president, Georgia Sand & Gravel Association; H. J. Gerhardstein, president, Great Lakes Sand & Gravel Producers' Association; R. M. Calkins, vice-president, Chicago, Milwaukee & St. Paul R. R.; J. E. Gorman, president, Chicago, Rock Island & Pacific R. R.; W. H. Truesdale, president, Delaware, Lackawanna & Western R. R.; Howard G. Kelly, president, Grand Trunk Railway System; J. J. Bernet, president, New York, Chicago & St. Louis R. R.; Samuel Rea, president, Pennsylvania Railroad; M. Max Goodsell, secretary, Geyser-to-Glaciers Association, Helena, Mont.; A. F. Bement, vice-president, The Lincoln Highway, Detroit, Mich., and many others.

Speaking for the asphalt interests, President Draney of the Asphalt Association, one of the most earnest advocates of the proposed change, made the following statement:

"I do not believe that the states and municipalities will suffer any loss by reason of price fluctuation in letting contracts through the fall. I say this for the reason that, (except through the war period and the abnormal times that immediately followed the war,) the price range of the materials used in highway work is not very wide during a six months period and in any event buying ahead is common to all business undertakings and there is no sound reason why public buying for public purposes should be in a different class. Furthermore, work that is let in the late fall or winter is generally contracted for at a lower price than when bids are taken later. I believe the more general practice of letting contracts at an earlier date will be beneficial to every interest involved, including the taxpayers, the engineering organizations, the railroads, contractors, producers and the vast army of unemployed.

"When it is considered that approximately 60 cents out of every dollar appropriated for good roads goes to labor at the road or nearby, to say nothing of the labor at the plants producing road materials, the possibilities for eliminating, through fall contract awards, the specter of unemployment

are most impressive. Each \$1,000,000 for good roads provides an employment fund of \$600,000 that will afford work for 200,000 men for one day at \$3 each or work for 23,000 men for one week at the same figure. More than \$1,000,000,000 is available for good roads in the United States and, while it is a question of weather conditions and the capacity of engineering and contracting organizations to make this vast sum, or part of it, useful at this time, the possibilities may be realized when it is considered that this \$1,000,000,000 if expended now would give employment to 2,600,000 men for one hundred days or to 666,000 men for one year. It would mean \$300 for each of 2,000,000 working men—not enough to keep the wolf entirely from the door but sufficient to assure three meals a day. A road-building program on such a scale would mean, also, that 20 cents additional out of each dollar would go to the men at the factories, refineries, mills, quarries, and gravel pits, who, in turn, would speed up the railroads and draw more unemployed men to man the freight trains and terminals. A total of \$800,000,000, therefore, out of the \$1,000,000,000 available, would go to relieve the unemployment situation."

Road Work in Virginia Involves the Expenditure of More Than \$7,000,000.

Richmond, Va., October 8.—[Special]—Contracts for 324 miles of State highway costing approximately \$5,703,709 have been awarded by the Highway Department for the fiscal year ending September 1. Resurfacing work totaling 59 miles costing \$347,380 has been undertaken by the state forces. Additional allotments of \$68,628 on 7 projects under way brings the total cost of new work and resurfacing on 400 miles of road to \$6,071,214. There still remains on hand for contracts that will be awarded as soon as locations and right of way have been decided \$1,051,000, thus making a total of contracts awarded and initiated during the past year of \$7,122,214.

Since January 1, 1919, when the State Highway Department first began to construct the highway system with the aid of Federal funds, contracts for construction of 551 miles of road have been awarded in addition to 123 miles of resurfacing either now complete or under way.

On September 30 surveys were under way on 68 additional miles of road, and by the time the state is ready to award spring contracts it is estimated that 650 miles of road will be ready.

\$7,500,000 Road Bonds Sold by West Virginia.

Charleston, W. Va., October 1.—[Special]—Instead of being marketed through the bankers of West Virginia, the issue of \$7,500,000 of state road bonds of West Virginia, will be sold to Watkins & Company of New York, representing a syndicate of New York bankers. The state is to receive par and accrued interest for these securities. Details of the sale have been worked out by Governor E. F. Morgan, State Treasurer W. S. Johnson, and a sub-committee appointed by the bankers of the state at their meeting this week in Charleston.

Much surprise was created by the announcement that the bonds would be sold to the New York bankers as the general plan was to market the bonds to the citizens of West Virginia through the banks of the state. It is the general understanding that depository banks of West Virginia will redeposit the money received from the proceeds of the bonds in certain New York banks so that the bankers purchasing the bonds will have the use of the funds until needed by the state for road purposes, thus enabling the bankers purchasing the bonds to equalize the difference between the actual value and the par value of the bonds, plus a profit.

LUMBER AND BUILDING MATERIALS

Upward Trend in Common Brick.

The upward turn in construction is reflected in common brick, one of the important basic building materials, according to the monthly digest of conditions in the industry by Common Brick Manufacturers Association of America.

The latest report issued by the Association says:

"Common brick, is steadily reflecting the upward turn of construction. A curve illustrating the volume of business that has persisted in bending downward month after month seems at last to have hit something substantial and bent upward. While the angle of its ascent is not sharp, it is encouraging to note that during the past two months it has persistently progressed, and indicates strongly that the actual turn in the tide of construction has taken place.

"One hundred and twenty-six manufacturers, representing every section of the United States in which common brick is made in any quantity, contribute to the current report. These concerns show 254,000,000 burned brick on hand, an increase of 22,000,000 over the report of 110 manufacturers thirty days ago. This means that the same plants who reported a month ago have about the same stock on hand and that shipments from plant have equalled production. About the same situation is observed in the orders on books. The 126 manufacturers show orders for more than 158,000,000 brick, while 110 manufacturers in the September 1st, report showed orders for 130,600,000. This also would indicate that orders have held their own, orders booked during the month equalling in volume the orders filled.

"The most cheerful aspect of the current month's report is that out of 126 manufacturers 69, or more than one-half, report either good or fair outlook for the forthcoming month. This is a decided change from past pessimistic reports.

"Each month we have given the composite price which is arrived at by striking an average of all the prices quoted by the reporting companies. This composite price has receded each month since the early part of the year. The composite of the current month is \$13.87, as compared with \$14.04 on September 1st. It is always necessary, however, to point out that this composite figure is not a representative figure. The man who cannot buy brick for \$13.87 in his locality should not feel that he is paying too much for brick. This figure is below what may properly be called an average price. To say that the prevailing price of common brick was from \$15.00 to \$16.00 would be nearer correct. The composite is brought to an abnormally low level by the competitive price prevailing in some sections of the country.

"As pointed out frequently, an increase in production will tend to lower manufacturing costs and be reflected in a lower price for the commodity, but it is predicted that the composite figure as produced from these reports will from this point begin to go upward rather than downward. The sections of the country that are selling common brick today at \$6.00 or \$7.00 per thousand will, with the stimulation in business, naturally advance the price, which is today absolutely below the manufacturing cost. A more uniform price will develop as business picks up.

"Labor and fuel conditions in the industry continue to be satisfactory. About 35 plants among the firms reporting are still shut down on account of no demand for brick. These are largely in the western and mountain states. As usual, the pick-up shows itself first in the east and is moving westward.

"While the prosperity of the brick industry is bound up with that of other material producing industries in depending upon general business conditions, it is certain to be greatly stimulated by the rapidly growing use of the Ideal wall.

"Secretary Hoover's National Building Code Committee has received and is now considering an exhaustive report commenting favorably on this type of construction. This report was made by D. Knickerbacker Boyd, formerly Secretary of the American Institute of Architects and prominent official of the U. S. Housing Corporation.

"From the Republic of South China comes word that the Ideal wall has been used in that semi-tropical climate for hundreds of years; and dwelling houses upwards of fifty years old with Ideal walls in the cold country of Sweden are considered ideal to live in by their occupants."

Southern Pine Lumber Sales Maintain High Level.

New Orleans, La., October 10—[Special.]—Sales of Southern pine lumber continue to remain at a high level according to recent reports from the Southern Pine Association. The average sales for the week ended Sept. 30 were 705,153 per mill while for the preceding week the total was 652,353. The orders received for the week of Sept. 30 when 133 mills reported amounted to 4,368 cars containing 93,785,328 feet, compared with the orders received at 141 mills during the preceding week for 4,284 cars containing 91,981,764 feet. Orders were 9.72 per cent and 2.96 per cent above shipments for the weeks of Sept. 30 and 23, respectively, while shipments were 18.60 per cent and 13.39 per cent above production for the two weeks.

For the week of Sept. 30 shipments were 85,476,054 feet and production 72,068,378 feet, while for the preceding week shipments totalled 89,340,831 and production was 78,791,468 feet.

The summary report from 133 mills for the week ended September 30 is as follows:—

	Cars	Feet
Orders on hand beginning of week	12,019	258,059,949
Orders received during week	4,368	93,785,328
Total	16,387	351,845,277
Shipments during week	3,981	85,476,054
Orders on hand end of week	12,406	266,369,226
For the week ended September 23 the report from 141 mills is as follows:—		
	Cars	Feet
Orders on hand beginning of week	12,910	277,199,610
Orders received during week	4,284	91,981,764
Total	17,194	369,172,374
Shipments during week	4,161	89,340,831
Orders on hand end of week	13,033	279,831,543

Plan Movement of 12,000,000 Feet of Lumber for Export Through Beaumont.

Beaumont, Texas, October 8—[Special.]—Plans were recently discussed here which may result in the movement of 12,000,000 feet of lumber through this port, with the added possibility of another similar shipment. Those present at the meeting were: T. C. Smelker and Jas. S. Edwards of the dock board; C. S. Hunter, harbor master; Chas. A. Bland, traffic manager; James Boyd of Tiffin & Boyd; and H. S. L'Hommedieu, manager of the Beaumont Forwarding Co. There is keen competition for the business and every effort will be exerted to have the lumber pass through the port of Beaumont.

Pine Products Company Organized in Pensacola.

Pensacola, Fla., October 8.—[Special.]—The Southern Extracts Co. is being organized here by James W. Ely and others for the manufacture of charcoal, pine oils, turpentine, and various other pine wood products. The plant will be located in this city on Pensacola Bay, and a wharf is now being constructed to facilitate receipt of raw materials. The company will handle its own construction on the wharf and plant proper.

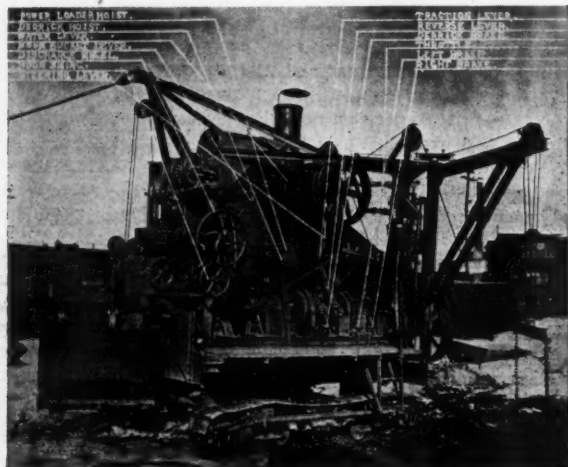
MECHANICAL

One-Man Control Paving Mixer.

A new paving mixer for which unusual speed is claimed, with positive one man operation, is being introduced by the Ransome Concrete Machinery Company, of Dunellen, N. J., who assert that the machine will discharge dry mix in from ten to fifteen seconds, the average time being twelve seconds. The accompanying illustration displays the machine equipped with full crawler traction, which enables it to traverse uneven surfaces without throwing undue strains upon the frame.

"As builders and users of paving mixers know," say the manufacturers, "the very dry mixes now specified for paving work are much more difficult than wet concrete to discharge rapidly. The quick discharge of dry mix as handled in the Ransome 21-E paving mixer is, therefore, a feature of special interest."

In the production of this new machine the builders have reduced the number of parts by 10 per cent and the control



PAVING MIXER READY TO OPERATE.

levers are arranged so that without taking a step the man running it can easily and continuously carry on all required operations, and, besides, he can at all times see into the drum. When made ready for travel or shipment the machine is but 11 feet high. The loading derrick can be used on either side and can easily be shifted from one to the other. Either steam gasoline or electric power can be utilized.

Improved Steam Shovel Mounting.

One of the Type B, Erie steam shovels on caterpillar type mounting is here shown hard at work. The durability of the new mounting, which the Ball Engine Company, of Erie, Pa., recently placed on the market after three years of experiment and careful test, is perhaps its most important feature. It is fully lubricated, every bearing completely protected, it is stated, by a film of special heavy oil, which lubricant is said to be equally efficient whether the temperature is hot or below zero; the link bearings will not run dry and than cut out but they are protected like other important bearings in the machine.

It is especially noted that this type of tread has a decided advantage for certain classes of excavation, particularly for road grading when frequent move-ups are required over soft ground. Increased speed of movement is also secured and the shovel can climb grades up to 25 per cent of its

own power, these advantages being possible by means of the thorough lubrication. Once filled the oil reservoirs are good for at least a month's service and once a month also the operator goes over the mounting with a squirt gun. Perfect



SHOVEL WITH NEW MOUNTING AT WORK.

steering is obtained by the operator from the cab. If desired it is easy to change the mounting to ordinary road wheels or to standard gauge railroad car wheels, without alteration of the truck frame.

FOREIGN NEEDS

[The MANUFACTURERS RECORD receives many letters from abroad asking for information about American goods, and others, from men who wish to represent American houses. Without assuming any responsibility for these concerns, we publish a summary of the foreign letters of inquiry from week to week.]

For Handling American Goods in Spain.

SOCIEDAD ANONIMA DE COMERCIO MARTIN DIAZ DE COSSIO, Plaza de Cataluna 9, Barcelona, Spain.—We wish to make a permanent connection with an American manufacturer or exporter, anxious to enter the Spanish and Portuguese markets effectively and with good results. We will provide space in our offices for the establishment of a special department, managed by a direct representative of the American firm, who will also be admitted on the Board of Directors of the company. Full information will be given on receipt of a letter describing the business to be carried on in Spain and the articles to be offered.

Dry Goods, Shoes and Other Goods.

J. T. HARPER & SONS, Wholesale Merchants, 80 First Street, Albert Town, Georgetown, Demerara, B. G., S. A.—We are interested in dry goods, such as hosiery, all shades socks, childrens' socks and stockings, black, white, and tan, shirts, gents hats, straw and felt; ladies straws, etc.; childrens' prints, ladies sweaters; boots and shoes; gents, ladies and childrens' ties; threads, leather, uppers and soles; back combs, hat pins and food stuffs, milk, salt fish, pork, salmon, sardines, flours, beers and toys for holidays. If you know of any good buying agent you can put us on please do so. Reference the Royal Bank of Canada.

Sole Agencies Desired.

HECTOR, MATHER & CO., Norris Road, Colombo, Ceylon.—Our special aim is to secure sole agencies in Ceylon for American manufacturers of repute. We do not wish to deal with middlemen. We have a large indent business and at present our chief suppliers are England, Japan and Germany. To save time we suggest sending full details of agency plans, terms and conditions, etc., with samples per parcel post in the case of small tools, fancy goods etc. We wish to be put in touch with manufacturers only of the following: aluminum products, art glass, automatic fire sprinklers, automobile accessories, automobile tires, automobile trucks, bag cleaners, belting, bleaching materials, box strapping, brass goods, brooms, brushes, buckets, cameras, can and box-making machinery, cement, cement machinery, cotton goods, cottonseed-oil machinery, crushers, desks, door mats, dyestuffs, electric machinery, electric-light plants, envelopes, filters, flooring, galvanized steel and iron, hardware, hinges, hoops, bands, etc. Ice cream freezers, ice-making machinery and supplies, mixers, nails, oils (lubricating), oils (paint), oxy-acetylene welding and cutting outfits and supplies, paint, paper, photographing apparatus, rules, stains, stamps, stationery, tires, tobacco machinery, tools, varnish, wire, wire goods, zinc.

Construction Department

EXPLANATORY.

The MANUFACTURERS RECORD seeks to verify and obtain additional information regarding all enterprises reported in its Construction Department, by direct daily correspondence. Further facts of news value are published later from telegraph, mail and representatives' reports. We appreciate having our attention called to errors that may occur.

DAILY BULLETIN.

The Daily Bulletin of the MANUFACTURERS RECORD is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$20.00 per year.

Bridges, Culverts and Viaducts.

Ark., Gurdon—Whelen Bridge Dist. Comms. will sell \$27,500 bonds to build bridge; W. Lee Brown, Secy.

Fla., River Junction—State Road Dept., Tallahassee, Fla., let contract to A. Bentley & Sons Co., 616 Atlantic National Bank Bldg., Jacksonville, Fla., to construct east approach to Victory bridge across Appalachicola river, at \$66,000.

Fla., Valparaiso—City will erect 734-ft. pile bent timber bridge; bids until Oct. 18; changed date from Sept. 15; A. P. Kastler, Clk. (See Machinery Wanted—Bridge Construction; Lumber, Etc.)

Ga., Dalton—Whitfield County let contract to Luton Bridge Co., York, Pa., at \$16,000 to build 4 bridges.

Ga., Gainesville—Austin Bros., Atlanta, Ga., have contract for building Clark's bridge at \$7,950; 265-ft. long including abutments and approaches.

Ga., Sylvester—Worth County Comms. let contract to Bembray & Duggan, Hawkinsville, Ga., at \$17,241.68 to build 3 concrete bridges on road from Sylvester to Moultrie.

Mo., Canterville—State Highway Dept., Jefferson City, Mo., will build five 80-ft. pony truss steel span bridge over Logan Creek; 2 reinforced concrete bents; 4 reinforced concrete piers; cost \$30,671.10; State Aid Project 18.47 C, Reynolds County.

N. C., Columbia—North Carolina State Highway Comsn., Raleigh, N. C., will build bridges in Turrell County; State Project 558; bids until Oct. 20. (See Road and Street Construction.)

N. C., Halifax—North Carolina State Highway Comsn., Raleigh, N. C., will build bridges in Halifax County; State Project 601; bids until Oct. 20. (See Road and Street Construction.)

N. C., Nashville—North Carolina State Highway Comsn., Raleigh, N. C., will build bridges in Nash-Franklin-Wake counties; State Project 515; bids until Oct. 20. (See Road and Street Construction.)

N. C., Nashville—North Carolina State Highway Comsn., Raleigh, N. C., will build bridges in Nash County; State Project 513; bids until Oct. 20. (See Road and Street Construction.)

N. C., Swanquarter—North Carolina State Highway Comsn., Raleigh, N. C., will build bridges and construct road in Hyde County; State Project 564; bids until Oct. 20. (See Road and Street Construction.)

Okla., Chickasha—City will vote Oct. 24 on \$30,000 bonds to build 2 reinforced concrete bridges over Line Creek and bridge on Sixth and bridge on Fourth St.; John C. Milliken, City Engr.

Okla., Ft. Gibson—State will build Frisco bridge over Arkansas river in Muskogee County; six 210-ft. steel trusses; etc.; Federal Aid Project No. 51, Section B; bids until Nov. 15 at office of State Engr., Oklahoma City, Okla. (See Machinery Wanted—Bridge Construction.)

Okla., Muskogee—State will build O. & G. bridge over Arkansas river, Muskogee County; four 200-ft. and 90-ft. steel trusses; etc.; Federal Aid Project No. 51, Section A; bids until Nov. 15 at office of State Engr., Oklahoma City, Okla. (See Machinery Wanted—Bridge Construction.)

Okla., Tuttle—M. L. Harris, Oilton, Okla., will build toll bridge over South Canadian river between Tuttle and Mustang; concrete-steel; \$50,000.

Okla., Whitefield—State will build Whitefield bridge over South Canadian river between Muskogee and Haskell counties; four 210-ft. steel trusses; etc.; Federal Aid Project No. 51, Section C; bids until Nov. 15 at office of State Engr., Oklahoma City, Okla. (See Machinery Wanted—Bridge Construction.)

Tex., Bryan—Brazos County will vote Oct. 29 on \$100,000 bonds for repairing bridges, etc. Address County Comms.

Tex., Cameron—Milam County will reconstruct 4 bridges; cost \$55,000; bids opened Oct. 7; A. F. Mitchell, County Engr.

Tex., Del Rio—Val Verde County will build 450-ft. bridge over Pecos river; 3 steel spans 150-ft. each or alternate two spans 225-ft. each; estimated cost \$200,000. Address County Comms.

Tex., Livingston—Polk County will build bridge over Trinity river; 120-ft. lift span over main channel of river; steel, concrete and timber construction; 600-ft. timber trestle approach on each side of main span; approximate cost \$80,000. Address County Comms.

Tex., San Angelo—Tom Green County plans building concrete viaduct on West Beauregard Ave.; about 30-ft. wide; probably cost \$100,000. Address County Comms.

Tex., Wharton—Wharton County let contract to W. V. Matyhis, at \$9,919 to build Wharton-Eagle Lake bridge; J. P. Taylor, County Auditor.

Tex., Wheeler—Wheeler County let contract to Unit Construction Co., St. Louis, Mo., for constructing bridge across North Fork of Red River; 1,355 ft. long; solid construction; steel reinforced; cost \$110,000 to \$120,000. (Previously noted inviting bids.)

Canning and Packing Plants.

Fla., St. Petersburg—Milne-O'Berry Packing Co., acquired Old Tampa Bay packing plant; will improve.

Tex., Beaumont—Wilson Packing Co., is reported to erect storage and sales plant, costing \$50,000.

Clayworking Plants.

N. C., Iotla—Clay Products—Iotla Clay & Mica Co., capital \$50,000, incptd. by Herman A. Gudger, Asheville, N. C.; Francis A. Gudger, 469 5th Ave., New York; A. W. Mangum, Chapel Hill, N. C.

Tex., Denny, P. O. Kosse—Bricks, etc.—Denny Pottery Co., organized with J. W. Pringle, Prest.; W. T. Lewis, V.-P.; Jno. Lyons, Secy.; has building; will install machinery to mf. fire brick, sewer pipe, insulators, etc.; bids opened probably May 1922, for new building; W. H. Anderson, Promoter. Lately noted W. H. Anderson plans enlarging pottery. (See Machinery Wanted—Pottery Plant Supplies; Electric Supplies; Kaolin or Glass Plants; Pottery Plant Machinery.)

Coal Mines and Coke Ovens.

Ky., Middlesboro—Yellow Hill Coal Mining Co. increased capital to \$60,000.

Ky., Sergeant—Commercial Coal Mining Co., Connellsville, Pa., increased capital to \$500,000; have leased additional acreage, install electrical equipment, open new mines, contemplate doubling output. (Lately noted under Lexington, Ky.)

Md., Steyer—Miners' Coal Co., capital \$500,000, incptd. with I. G. Mercer, Mgr. will develop 2000 acres coal land, contemplate building miners houses, etc.

Mo., Holts Summit—Central Missouri Coal & Mining Co., Central Trust Bldg., Jefferson City, Mo., capital \$33,000, incptd. with Gene Ewing, Prest.; Dr. C. B. Ewing, V.-P.; John McManus, Secy.-Treas.; plans installing steam shovel; develop coal mines.

Tex., Palestine—Anderson County Coal Co., capital \$100,000, incptd. by J. J. Barry, Thomas F. McGlin and W. J. Marshall.

W. Va., Clarksburg—Consolidation Coal Co. acquired 17 acres coal land; will develop.

W. Va., Huntington—Dixie Pocahontas Coal Co., capital \$100,000, incptd. by James F. Poindexter, Joseph Maloney and J. R. Marcum.

W. Va., War—Earlston Coal Co. increased capital from \$200,000 to \$300,000.

W. Va., Williamson—Bailey Pond Creek Coal Co., capital \$125,000, incptd. by L. B. Saunders, W. J. Bailey and M. P. St. Clair.

Cottonseed-Oil Mills.

Okla., Ardmore—Choctaw Cotton Oil Co., capital \$1,000,000, incptd.; merged 7 cottonseed oil milling companies.

Drainage Systems.

Ala., Contopa—Sumter County Agent, R. G. Arnold and Guy A. Hart, U. S. Drainage Engr. will make plans for drainage system, reclaiming 15 acres of land owned by J. L. Horn.

Ala., Fayette—Luxapallila Drainage Dist. in Fayette & Lamar Counties, W. M. Sud-dith, Prest., plans \$250,000 bond issue and starting construction of drainage work, reclaiming 15 acres of land owned by J. L. Horn.

claiming 22,370 acres; Fayette County also plans developing drainage dist. along Sipsey river, reclaiming 12,000 acres. (Previously noted.)

La., Plain Dealing—McWilliams Co., 908 McLeomore Ave., Memphis, Tenn., has contract for improving drainage system, approximately 365,000 cu. yds. excavation.

Mo., Albany—Gentry County Drainage Dist., E. C. Lockwood, Secy., will construct main ditch and laterals; bids until Oct. 13; Clark E. Jacoby, Engineering Co., Shukert Bldg., Kansas City, Mo. (See Machinery Wanted—Drainage.)

Mo., New Madrid—New Madrid County Drainage Dist. No. 23 issued \$100,000 bonds for drainage system.

Tex., Beaumont—Jefferson County Comms. of Drainage Dist. No. 6 let contract to Lake Arthur Dredging Co. to remove 1,000,000 cu. ft. dirt cleaning out Hillebrandts Bayou and constructing laterals; Comsn. also invites bids until Nov. 15 to complete project; has \$825,000 available; C. L. Sherer, Engr., Lately noted. (See Machinery Wanted—Drainage.)

Tex., Paris—Lamar County Comms. contemplate organizing levee district.)

Electric Plants.

Fla., Leesburg—Grass Fiber Pulp & Paper Co., E. R. Lacy, V.-P. and Gen. Mgr., will erect brick and concrete construction power house, for generating equipment; 400 K. W.; install 204 and 212-H. P. tube boilers; 750-H. P. National feed water heater; 22½ K. W. Westinghouse exciter; switchboard equipments; construct 125-ft. steel smoke stack.

Ga., Perry—City will improve light and water systems; vote. Oct. 17 on \$15,000 bonds. Address The Mayor.

Ky., Pikeville—Kentucky & West Virginia Power Co., Land Title Bldg., Philadelphia, Pa., contemplates erecting additional power house in Big Sandy Dist.; construct transmission lines from this point and high voltage tie lines to connect with other power houses; Francis R. Weller, Consult. Engr., Hibb's Bldg., Washington, D. C.

La., Jewella, R. D. from Shreveport—United States Sheet & Window Glass Co., of Columbus, Ohio; reported will erect power house with two 650-H. P. gas engines and two 550-K. V. A. connected with 440-volt, 60-cycle, G. E. generator at plant. (See Miscellaneous Factories.)

Md., Baltimore—Chesapeake Electric Co., 205 N. Calvert St., increased capital to \$50,000.

Mo., Kansas City—City will improve lighting system on Walnut and 10th Sts.; contemplates improving system on Prospect Ave., 24th and 27th Sts. Address The Mayor.

N. C., Asheville—City will extend lighting system. Address The Mayor.

N. C., Charlotte—City, cooperating with Southern Power Co., will extend lighting system on 4th St. Address The Mayor.

N. C., Greensboro—City, Mr. Painter, Mgr., will install lighting system.

Okla., Duncan—City, J. F. Ewell, Mgr., will improve electric light and water plants; costing \$300,000; bids opened; Benham & Mullergren, Consult. Engrs., Kansas City, Mo. Previously noted voted bonds. (See Machinery Wanted—Electric Plant.)

Okla., Fairfax—City will expend \$80,000 to extend lighting, water and sewer systems, and sewage disposal plant; V. V. Long & Co., Consult. Engrs., 1300 Colcord Bldg., Oklahoma City. Address The Mayor. (Lately noted voted bonds.)

Okla., Purcell—City will improve lighting.

water and sewer systems; Benham & Mullergren, Consult. Engrs., Kansas City, Mo.

Okla., Wilson—City, Isaac Roberts, Mayor, will improve electric lighting system; vote Oct. 19 on \$70,000 bonds. (Lately noted plans voting.)

Tex., Austin—City let contract to Albert Mundi, at \$35,000, to construct addition to power plant; erect boiler room and smoke stack; install boilers; construct tunnel to connect new boiler room with main unit of plant.

Tex., Cameron—City will install electric light and water plants, or purchase plants in use; Jas. D. Fowler, Engr., 606 Sumpter Bldg., Dallas, Tex. (Lately noted plans voting bonds.)

Tex., Corpus Christi—Gulf Coast Power & Light Co., R. W. Morrison, is reported contemplating establishing central power plant; rehabilitate electric light and power plant and ice plant. (Lately noted inceptd., capital \$100,000.)

Tex., Edinburg—City issued \$30,000 electric light system bonds. Address The Mayor.

Tex., Waco—City Comsn. plans installing lighting system on River Driveway from Washington Ave. to Cameron Park, and on Washington Ave. from bridge to 3rd St.

W. Va., Logan—Kentucky & West Virginia Power Co., Land Title Bldg., Philadelphia, Pa., will expend \$2,250,000 to construct 30,000 K. W. addition to present generating plant; E. A. Turner, Supt. of Construction, Logan; Francis R. Weller, Consult. Engr., Hibb's Bldg., Washington, D. C.

Flour, Feed and Meal Mills.

Tenn., Nashville—Colonial Milling Co., capital \$50,000, inceptd. by M. L. Fletcher, Ellis P. Fitts and C. P. Wilson.

Tex., Abilene—Texas Mill & Elevator Co., capital \$75,000, inceptd. by Mack L. Wyatt, Geo. L. Poston and L. A. Grimes.

Va., Kilmarnock—Lancaster Roller Mills increased capital from \$10,000 to \$50,000.

W. Va., Charleston—Brown Milling & Produce Co., will erect 5-story and basement 200x44 ft. reinforced concrete feed mill and storage house, costing \$70,000.

Foundry and Machine Plants.

Md., Baltimore—Lock Guards—Herculo Lock Guard Co., 15 S. Gay St., capital \$100,000, inceptd. by William C. Jones, George M. Donaldson and Frederick J. Sampson; mfrs. guards for lock protection.

Mo., Kansas City—Gasoline Motors—Unit Motor Co., Samuel McCubbin, Pres., 2615 Walnut St.; have leased \$100 ft. floor space in fireproof concrete building; will install small mch., including drill presses, lathes, etc.; mfrs. gasoline motors built in units like a book case.

Mo., St. Louis—Stoves, etc.—Forshaw Stove Repairs, Joseph Forshaw, 111 N. 12th St., will erect 7-story and basement, 100x25-ft. reinforced concrete building; estimated cost \$60,000. Lately noted to erect. (See Machinery Wanted—Lumber.)

N. C., Greensboro—Steel Castings—W. J. Westbrook Elevator Co. will erect foundry for mfr. of both iron and semi steel castings.

Okla., Tulsa—Boilers—Ruth Boiler Works, inceptd. by C. H. Feary, H. C. Ruth and P. A. Wilson.

Tenn., Memphis—Welding, etc.—Valley Welding & Boiler Co., capital \$15,000, inceptd. by W. E. Young, B. F. and LeRoy Worsham.

Tex., Harrisburg—Machinists.—Harris-

burg Machine Co., Harrisburg, Tex., organized with Gus J. Fensl, Pres.; R. A. Fenzl, V. P. and Mgr.; F. D. French, Secy.-Treas.; has 38x125-ft. plant, installed 88,000 mch., all purchased. (Lately noted inceptd., capital \$15,000.)

Va., Lynchburg—Iron, etc.—Lynchburg Iron & Metal Co., inceptd. with Abe Eichelbaum, Pres.; Abe Cohen, V.-P. and Secy.; Ike Cohen, Mgr.; taken over old Lynchburg Iron & Metal Co.

W. Va., Fairmont—Machine Shop—A. B. Knight let contract to J. M. Kisner & Bro. to erect 2-story machine shop for grinding auto motor cylinders.

W. Va., Huntington—Frogs and Switches—H. T. Lambert Co., capital \$200,000, inceptd. with H. T. Lambert, Pres.; E. A. Thomas, Secy.-Treas.; will erect plant for mfr. of railroad frogs and switches.

Gas and Oil Enterprises.

Ala., Gadsden—Tri-City Gas Co., will improve system; lay 6-in. mains on Chester and 7th Sts.

Ga., Athens—Athens Gas & Fuel Co., will improve plant; will issue \$40,000 bonds.

Ky., Burkesville—Refinery—Cumberland County Refinery, capital \$10,000, inceptd. by Earnest J. Schabelitz, Burkesville; Robt. H. Wise, Waynesburg, Pa.

N. C., Asheville—Asheville Light & Power Co., H. W. Plummer, Mgr., let contracts to Kelly-Wilson Co., Asheville, and Phoenix Utilities Co., New York, to improve plant; lay 3-mi. mains; erect 18 retorts, etc. (Lately noted.)

Okla., Imo., P. O. Enid—Imo Oil & Gas Co., capital \$100,000, inceptd. by W. H. Stewart, Imo.; J. M. Hawkins, C. E. Barnes; both Enid, Okla.

Okla., Okema—Gas Plant—E. V. Baker, C. C. Walker and J. R. Barry, will install gas plant; bids invited soon. (Lately noted, granted franchise.)

Tex., Dallas—Refining—Trinity Oil Corp., organized with Harry Pennington, Pres.; Jas. R. Armstrong, V.-P., Oklahoma City. Okla.; J. W. Ricker, Sales Mgr., Dallas; purchased plant of Eastland Oil & Refining Co., consisting of 4,000-bbl. daily capacity skimming plant, located at Dallas, and 25,000 acres in oil field leases in Texas; will convert skimming plant into refining plant; plans erecting lubricating plant to mfr. zero test and paraffin base oils.

Tex., Dallas—Refinery—Dallas Oil Refinery Co., 3131 Oak Lane, will erect iron clad refinery.

Tex., Fort Worth—Refining—Trinity Refining Co., capital \$50,000, inceptd. by J. C. Smith, F. S. Burt and F. O. Stevenson.

Tex., Houston—Dew Brothers Oil Co., capital \$30,000, inceptd. by H. S. H. W. and G. L. Dew.

Tex., Marble Falls—Marble Falls Drilling Co., capital \$40,000, inceptd. by J. J. Faubion and J. R. Yett.

Tex., Marshall—Pipe Line—Industrial Gas Co., let contract to Cocke & Turner to construct 10-in. pipe line from Marshall to Bethany, La., oil fields. (Lately noted.)

Va., Bristol—Frank Kilgore will construct gasoline pipe across Beaver Creek. Address S. G. Keller, City Mgr.

W. Va., Bedington—Blue Ridge Oil & Gas Co., organized with Hugh C. McCown, Pres., Hagerstown, Md.; J. U. McKethan, V.-P.; J. U. Lemmon, Jr., Secy.-Treas., 715 E. 2nd

St.; both Baltimore Md.: leased 2,000 to 3,000-acre site on Martinsburg Ridge.

W. Va., Kanawha, Putnam and Lincoln Counties—Industrial Gas Co., Dunbar, W. Va., capital \$2,000,000, inceptd. by F. H. Pauley, Dunbar; Fred Paul Grosscup, Alvin D. McCormick; both Charleston, W. Va.

Hydro-Electric Plants.

Fla., Tallahassee—Gay Winthrop is interested in building hydro-electric plant and dam on Ocklocknee river.

Ga., Mt. Airy—W. G., Martin, Leesburg, Ga., and J. R. Herrin, Mt. Airy, Ga., will build 30-ft. dam across Broad river; steel flume 5-ft. diameter and 156-ft. long will conduct water from reservoir to power house equipped with 2 turbo-generators developing 600 H. P.

Ice and Cold-Storage Plants.

Fla., Miami—Royal Palm Ice & Refrigerating Co., Box 4326, let contract to A. Middlemass at \$20,000 to erect 100x150-ft. fireproof building; install 35 ton ice plant, cold storage and dairy; mch. all purchased. (Supersedes recent item.)

Ky., Earlington—Earlington Ice Co., (late-ly noted inceptd., capital \$60,000), organized with Frank D. Rash, Prest.; W. L. Phillips, Secy.-Treas.; Chas. W. Francis, Mgr.; will probably erect 60x80 ft. brick and concrete building; install ice making mch., either one 40 ton or two 20 ton raw water, electric, ice making mch.; bids until Oct. 10 to 15. (See Machinery Wanted—Ice Plant.)

La., Crowley—City Delivery & Ice Plant, A. F. Horn, Jr., Propr., preparing plans, increasing capacity of ice plant.

Mo., St. Louis—Polar Wave Ice & Fuel Co. will erect ice mfg. plant with daily output of 300 tons and storage house, 20,000 tons capacity; purchased 240x123 ft. site; install electric power; H. G. Clymer, Archt., Wainwright Bldg. (Late-ly noted.)

Land Developments.

Fla., Pablo Beach—Buck & Buck, Jacksonville, Fla., purchased 800 lots; plan developing for park; will grade streets, etc.

Ga., Columbus—City will vote Nov. 12 on \$150,000 park bonds. Address The Mayor.

Ky., Versailles—Versailles Development Co., inceptd. by H. P. Taylor, C. B. Carter and Alex. Williams.

La., Shreveport—City, J. McW. Ford, Mayor, will purchase public park and playgrounds; voted \$250,000 bonds.

Okla., Wilson—City, Isaac Roberts, Mayor, will develop park; vote Oct. 19 on \$10,000 bonds. (Late-ly noted plans voting.)

S. C., Greenville—W. D. Workman, acquired 600-acre site; contemplates developing.

Tenn., Knoxville—Cherokee Orchard Co., capital \$100,000, inceptd. by R. M. McConnell, B. H. Testerman and Chas. M. Seymour.

Tex., El Paso—Ivy-Dale Farm Co., capital \$200,000 inceptd. by Will T. Owen, and Jerome Dale.

Tex., Waco—City, Mayor Richards, plans purchasing Park Lawn Cemetery.

Va., Radford—Baldwin Land Co., capital \$150,000, inceptd. with W. T. Baldwin, Prest.; A. D. Johnson, V.-P.; J. D. Bird, Secy.-Treas.; develop Cassel land for city lots.

Lumber Manufacturing.

Ala., Tuscaloosa—West End Lumber Co., capital \$15,000, inceptd. with M. L. Waddell, Prest.; John M. Laycock, V. P.; A. Laycock, Secy.-Treas.

Ark., Hamburg—Hamburg Lumber Co. will repair burned furnace and fuel building.

Fla., Miami—Page Lumber Co., capital \$25,000, inceptd. with J. M. Page, Jr., Prest.; J. H. Beacham, V.-P.; A. E. Kuovies, Secy.-Treas.

Fla., New Smyrna—G. C. Beck will rebuild burned saw mill; install saw mill mch., engines and boilers; daily output 15,000 ft. lumber, 25,000 laths. (See Machinery Wanted—Boilers; Engines; Gang saw, etc.; Belting.)

Miss., Hattiesburg—Bertha Lumber Co., capital \$30,000, inceptd. by C. W. Phillips, Paul F. Allen and George W. Currie.

N. C., Goldsboro—Enterprise Lumber Co., Whiteville Lumber Co. and others will consolidate, plans erecting lumber mill; Nathan O'Berry, in charge.

Tex., San Antonio—San Antonio Lumber Co., capital \$30,000, inceptd. by C. E. Jones, I. N. and George Stephens.

Metal-Working Plants.

Ky., Louisville — Semaphore — Safety Semaphore Co., 724 S. 4th St., organized with W. H. Hinton, Prest.; J. H. Brady, V.-P.; R. E. Davis, Secy.-Treas.; mfr. signal device for automobile. (Late-ly noted inceptd., capital \$20,000.)

Tex., San Antonio—Wire—Travis Wire Co., capital \$10,000, inceptd. by W. B. Moss and J. W. Wharton.

Mining.

N. C., Iola—Clay and Mica—Iola Clay & Mica Co., capital \$50,000, inceptd. by Norman A. Gudger, Asheville, N. C.; Francis Asbury Gudger, 409 5th Ave., New York City; Adolphus W. Mangum, Chapel Hill, N. C.

Tex., Lime City, P. O. Oglesby—Lime Gulf Sulphur Co. reported to acquire lime mines in Coryell County; plans extensive development.

Tex., Marshall — Lignite — Dares Co. acquired several hundred acres land, contemplates mining 50,000 tons of lignite to the acre.

Va., Alexandria — Gold, etc. — Fauquier County Gold Recovery Corp., capital \$100,000, chartered with George J. Wedeman, Prest.; Harold C. Kenney, Secy.

Miscellaneous Construction.

Fla., Fort Lauderdale—Jetties, etc. City plans deep water inlet and turning basin; inlet to be 400 ft. wide and 16 ft. deep to accommodate coast wise vessels; construction includes jetties, cut of 100 yds. from sea; probable cost \$100,000; contemplates bond issue; Seaboard Dredging Co., Engr., Jacksonville, Fla.

Fla., Jacksonville Revetment F. S. Engrs. Office, Jacksonville, will construct revetment at St. Johns Bluff, St. Johns River; bids until Oct. 15. (See Machinery Wanted—Revetment.)

Fla., Jacksonville — Conveyor — Jacksonville Terminal Co. let contract to Roberts & Schaefer Co., Chicago, Ill., to erect electric cylinder conveyor.

Ga., Savannah—Tunnel—Chatham County Comms. have tentative plans to tunnel Savannah river, offered as substitute for proposed Savannah-Carolina bridge; Beasley Contracting Co., submitted plans.

Md., Baltimore — Terminals — Tidewater Lines of Southern Maryland consolidated with Arndt Transfer & Express Line, 33 S. Howard St., with Julius W. Arndt, Gen. Mgr.; reported to erect \$225,000 freight and

passenger terminal for state-wide motor transportation system.

Mo., Kansas City—Swimming Pool—City, Mayor Cowgill, will construct wading and swimming pools; voted \$200,000 bonds; Chas. E. Foreman, Asst. Engr., Water Dept. (Previously noted to vote.)

W. Va., Moundsville—Dredging, etc.—Central Coal Mining Co. let contract to General Contracting Corp., Columbia Bldg., Pittsburgh, Pa., for dredging and other river improvements at company's mine.

Miscellaneous Enterprises.

Ala., Gadsden—Dry Cleaning Gadsden French Dry Cleaning Co., J. B. Rooks, Propr., will repair burned plant; install about \$1000 mch. for dry cleaning. (See Machinery Wanted—Dry Cleaning Machinery.)

Ark., Conway—Publishing—Conway Weekly News, Edgar B. Parker, Mgr., let contract to W. A. Russell to erect 1-story brick building.

Ark., Texarkana — Farming Machinery, etc.—Williams Machinery Co., Box 356, reorganized with J. T. Davis, Prest., T. Y. Barlow, V.-P.; W. W. Shaw, Secy.-Treas. and Mgr. Late-ly noted under Foundry and Machine Plants. (See Machinery Wanted—Hay Presses; Engines; Farming Machinery, etc.; Saw Mill Supplies; Grist Mills.)

Fla., Miami — Abattoir — City will erect municipal abattoir, consisting refrigerating equipment, pens, stalls and slaughtering devices. Address City Mgr. Coe.

Fla., Clermont—Laundry—R. Helms, Anderson, Ind., purchased building, remodel and install mch. for laundry.

Fla., Miami Plumbing—Buckeye Plumbing Co., capital \$25,000, inceptd. with G. A. Reebel, Prest.; A. C. Reebel, Secy.-Treas.

Ga., Atlanta Publishing—Southern Republican Publishing Co., capital \$25,000, inceptd. by D. K. Roberts, W. O. Ballard and John Randolph.

Ga., Augusta — Amusements — Lenox Amusement Co., capital \$100,000, inceptd. by G. N. Stoney, J. P. Waring and W. H. Wilbourn.

Ky., Covington—Incinerator—City Commrs. plans installing garbage incinerator, estimated cost \$30,000.

Ky., Louisville—Contracting, etc. H. A. Doll Co., capital \$25,000, inceptd. by Jackson Cole, Harrison A. and Jacob P. Doll.

Ky., Winchester — Construction — Mills-Williams Construction Co., capital \$50,000, inceptd. by R. E. Mills, J. C. Williams and B. H. Stapleton.

La., Shreveport—Fire Alarm System—City, J. McW. Ford, Mayor, voted \$25,000 bonds for fire alarm system.

Md., Baltimore—Publishing—Warwick & York, 10 E. Center St., capital \$10,000, inceptd. by Heinrich and Rudolph E. Buchholz, Allan Cleveland.

Mo., St. Louis—Dairy—Missouri-Illinois Co-operative Milk Producing Assn. purchased plant; let contract for more than \$100,000 equipment.

N. C., Asheville—Laboratory—Ruck Research Laboratory, capital \$100,000, inceptd. by Dr. Karl Von Ruck, Karl Bishopric and E. W. Shocheit.

N. C., Charlotte—Electrical Engineers—R. H. Bouligny, Inc., chartered with \$25,000 capital.

N. C., Charlotte—Barbers' Supplies—Charlotte Barbers' Supply Co., capital \$10,000.

Incpd. by M. E. Walters, Columbus M. Connor and J. E. Bennett.

N. C., Goldsboro—Publishing—Goldsboro Publishing Co., capital \$50,000, incptd. by P. R. Anderson, R. E. Powell and John D. Langston.

N. C., Oteen—Fire Equipment—Major James E. Miller, Commander of Oteen Hospital, announced contract had been let to install electric fire alarm system at Oteen; work includes large tower and gong; costing several thousand dollars; also recommends additional fire fighting machines be purchased for hospital use.

Okla., El Reno — Advertising — Night & Day Advertising Co., capital \$25,000, incptd. by H. W. Wolf, G. D. McGinnis and C. L. Herbert.

Okla., Enid — Greenhouses, etc. — Enid Floral Co. completing improvements to plant; has under construction four 25x100-ft. houses giving 37,500 sq. ft. additional glass space; also erect office, garage, work room, heating plant and coal bins, all brick construction; estimated cost \$50,000.

Okla., Henryetta—Electrical Accessories—V. L. Hesterly, Miami, Okla., will erect plant for mfr. of electrical accessories, etc.

Okla., Wilson—City, Isaac Roberts, Mayor, will vote Oct. 19 to vote on \$7500 bonds for fire fighting equipment and main extensions. (Lately noted to vote.)

S. C., Bennettsville—Undertaking—Whitner Undertaking Co., capital \$16,000, incptd. with J. H. Kistler, Prest.; J. T. Pennington, V.-P. and Gen. Mgr.

S. C., Greenville—Construction—Poe Constructing Co., incptd. with H. T. Poe, Jr., Prest.; Marion Brawley, Secy. and Treas.

Tenn., Knoxville — Builders Supplies — Knoxville Builders' Supply Co., capital \$100,000, incptd. by Eugene Galyon, T. G. and R. M. McConnell.

Tenn., Knoxville—Transportation—Knoxville City Transfer Co., capital \$10,000, incptd. by C. S. Reeder, James A. Durham and C. Raleigh Harrison.

Tenn., Nashville—Surgical Instruments—Nashville Reflector Co., capital \$125,000, incptd. by F. J. Morgan, Volney James and W. A. Matthews; mfr. surgical instruments, mirrors, etc.

Tex., Alvord—Hardware—Alvord Hardware Co., capital \$10,000, incptd. by J. R. Rhyne, Hal Sands and C. G. Malone.

Tex., Dallas—Steam Laundries—Queen Operating Co., capital \$14,200, incptd. by E. H. Wendtland, W. R. Hager and C. E. Sanford; establish steam laundries.

Tex., Fort Worth—Publishing—Southern Florist Publishing Co. increased capital from \$10,000 to \$20,000.

Tex., Ft. Worth — Publishing — Monitor Publishing Co. increased capital from \$10,000 to \$25,000.

Tex., Mexia — Laundry — Mexia Steam Laundry Co., H. B. McIntire, Mgr., let contract to erect laundry plant, mchy. purchased; \$25,000.

Tex., Orange—Transportation—Hustmyre Co., capital \$50,000, incptd. by B. F. Brown, F. W. and L. W. Hustmyre.

Va., Buchanan—Laundry—Mrs. J. F. Fitch contemplates establishing wet wash laundry. (See Machinery Wanted—Laundry.)

W. Va., Charleston—Transfer, etc.—J. M. Hutchinson Truck & Transfer Co., capital \$50,000, incptd. by David C. Howard, John J. D. Preston and E. H. Hall.

Va., Richmond — Construction — Lee Construction Corp., capital \$25,000, chartered with A. F. Crenshaw, Prest.; U. Clement, Secy.

W. Va., Huntington—Construction—Hines-Bailey Corp., capital \$100,000, chartered by L. W. Blankenship and M. L. Burdett, both Huntington; H. E. Hines, Princeton, W. Va.

W. Va., Morgantown—Transfer—James O. Beck Transfer Co., capital \$10,000, incptd. by James G. Beck, L. V. Price and Charles

W. Va., Wheeling—Advertising—Wheeling Advertising Corp., capital \$50,000, chartered by Reuben Robinson, John J. Coniffe and Austin V. Wood.

Miscellaneous Factories.

Ala., Birmingham—Orange Smash—Orange Smash Co. incptd. by W. S. Scott, R. D. Johnston and N. Welsh.

Ala., Carbon Hill—Coca-Cola—Jasper Coca-Cola Bottling Co., R. W. Rickerson, Mgr., Jasper, Ala., let contract to H. J. Dawson, to construct 60x25 ft. fireproof brick building; has \$4,000 machinery; daily output 4,800 bottles coca-cola. (Lately noted.)

Ala., Gadsden—Butter—Lokey Ice Cream Co., 1216 Forest Ave., organized with C. K. Crossfield, Prest.-Mgr.; S. G. Crossfield, Secy.; M. E. Crossfield, Treas.; will establish plant to mfr. butter; daily output 1,000 lbs. Lately noted C. K. Crossfield interested in establishing creamery. (See Machinery Wanted—Butter Machinery.)

Fla., Bradentown—Syrup—J. L. Wood Moore, contemplates establishing syrup factory on Braden River; erect mill to handle 100-acre crop.

Fla., De Land—Bakery—H. A. Windhoorst let contract to erect 42-ft. frontage building; part to be occupied by owner for bakery.

Fla., Jacksonville—Glass—Tidewater Glass Mfg. Co., B. R. Kessler, Secy., acquired 1,500 x325 ft. waterfront site; will erect 3-unit plant; each building, 2-story 300x60 ft., costing \$150,000; bids invited soon; install machinery to mfr. glass bottles, jars, etc.; has switching connections with St. Johns River Terminal Co.; H. J. Klutho, Archt., will supervise construction.

Fla., Jacksonville—Butter—Algona Farms & Industries Corp., capital \$250,000, incptd. with Willard Goodfellow, Prest.; Alexander Wilson, V.-P.; Geo. A. Marshall, Secy.-Treas.

Fla., Jacksonville — Turpentine — Fort McCoy Turpentine Co., Fort McCoy, Fla., capital \$40,000, incptd. with W. J. Wilson, Prest.; J. H. Burroughs, Secy.-Treas.

Fla., Kendall—Starch Products—A. B. Hurst Co., capital \$25,000, incptd. with A. B. Hurst, Prest.; W. T. Tomlinson, V.-P.; Jno. B. Hurst, Secy.

Fla., Pensacola—Extracts—Southern Pine Extracts Co., Jas. W. Ely, will establish plant to mfr. charcoal, pine-oils, turpentine and other pine wood products; also erect wharf; construction by owner.

Fla., Sanford — Clothing — Raffeld-Honig Co., capital \$10,000, incptd. with Albert Raffeld, Prest.; Ernest Honig, Secy.-Treas.

Ky., Ashland—Ice Cream—Imperial Ice Cream Co., W. M. B. Sine, Gen. Mgr., Clarksville, W. Va., purchased 127x100 ft. site; will erect 2,500-gals. daily capacity ice cream plant; 1-story brick or hollow tile building; install machinery and refrigeration plant.

La., DeRidder—Chamber of Commerce, J. K. Smith, Secy., interested in establishing peanut oil mill for 3,000-acre crop of Spanish peanuts. (See Machinery Wanted—Peanut Oil Mill.)

Ky., Hopkinsville—Red Devil Patch Co., capital \$50,000, incptd. by P. C. Smithson, Hopkinsville; E. W. Bryan, J. M. Greenfield; both Guthrie, Ky.

Ky., Pikeville—Tobacco, etc.—Williams

Tobacco & Candy Co., capital \$50,000, incptd. by E. F. Williams, Felon Goff and J. F. Weddington.

La., Jewella, R. D. from Shreveport—Glass—United States Sheet & Window Glass Co., of Columbus, Ohio; is expending approximately \$2,500,000 to construct glass plant; 800x400 ft. main building to contain furnaces; construct 200-ft. towers; is erecting reinforced concrete storage house, capacity 500 tons; containing 10 bins, 25x35 ft. each; erect power house, reservoir, warehouse; construct sewers; mfr. flat glass, H. E. DeVaughn, Ch. Engr. (Previously noted.)

Md., Baltimore—Abrasive Compound—Cyl-Lap Products Co., capital \$1,500,000, incptd. by Malcolm J. Coan, David L. Schiller and Robt. F. Leach, E. Lexington St.

Md., Baltimore—Paperboard—Chesapeake Paperboard Co., Claggett and Woodall Sts., will erect 1-story 41.5x31.5 ft. concrete addition to plant.

Md., Baltimore—Hats, etc.—Dor-Sil Hat Co., 515 E. Baltimore St., capital \$10,000, incptd. by Morris Dorf, Causey A. Dobres and Geo. N. Silberman.

Mo., Boonville—Shoes—Hamilton-Brown Shoe Co., St. Louis, will establish factory to mfr. shoes.

N. C., Salisbury—Bakery—New System Bakery, capital \$50,000, incptd. by H. J. Wampler, C. A. Clark and T. M. Casey.

N. C., Winston-Salem—Barber Photo & Office Supply Co., capital \$50,000, incptd. by W. W. Stroud, E. F. Barber.

N. C., Winston-Salem—Tobacco—Taylor Bros., capital \$750,000, incptd. by W. B. and H. P. Taylor and E. L. Jones.

N. C., Winston-Salem—Candy—Crystal Candy Co., purchased Martin-Hill Candy Co.'s business; will install plant.

S. C., Clemson College—C. Schmolke, interested in establishing creamery.

S. C., Columbia—Extracts—Halo Co., capital \$400,000, incptd. with Geo. E. Hair, Prest., Bamberg, S. C.; E. M. Lowman, Secy., Columbia; will erect 140x50 ft. fireproof building; bids about Jan. 1, 1922; install percolators, pumps, and simple syrup machinery; will mix syrup. (See Machinery Wanted—Percolators; Pumps; Syrup Machinery.)

S. C., Florence—Creamery—M. W. Cartwright will occupy building to be erected by Creamery Development Co., J. Boone Aiken, Prest.; 80x40 ft. brick and corrugated steel building; concrete floor; bids opened soon; will install boiler, refrigerating plant and creamery machinery, to make butter, etc. (See Machinery Wanted — Boiler; Refrigerating Plant; Creamery Machinery.)

S. C., Greenwood—L. B. Altman, County Agt., interested in establishing creamery.

Tenn., Chattanooga—Paper—Mercer Reynolds, organized company with \$200,000 capital, to mfr. rag paper from cotton linters.

Tenn., Knoxville—Paints, etc.—Knoxville Pure Paint & Varnish Co., capital \$150,000, incptd. with J. R. Lee, Prest.; R. L. Foosechee, Treas.; both Sparta, Tenn.; J. C. Trewitt, V.-P., Knoxville; let contract to Worsham Bros., at \$25,000 to \$30,000, to construct 2-story and basement 124x49 ft. plant to mfr. paint and varnish.

Tex., Dallas—Yeast—Fleischman Yeast Co. will occupy building to be constructed by A. A. Nolan, Owner; contract let to Rupert O. Slaughter, 314 Ling Bldg., at \$25,400, to erect 2-story 115x50 ft. brick walls and wood joist construction; 5-ply tar and gravel roof; cement floors; J. C. Teague, Archt.; mfr. yeast.

Tex., Houston—Jewelry—Lone Star Jewelry Mfg. Co., 1009½ Congress Ave., inceptd. by Abraham Frackman and Leo Kohn.

Tex., Waco—Chamber of Commerce, interested in establishing creamery.

W. Va., Huntington—Glass—Camp Glass Works, Dan Camp, Mgr., 25th St., plans expending \$30,000 to improve plant; install sprinkler system; under management of Interstate Window Glass Co., Bradford, Pa.

Motor Cars, Garages, Tires, Etc.

Ala., Birmingham—Tires, etc.—M. & W. Tire Co., capital \$10,000, inceptd. with Truman A. Morrison, Prest.; Earl Morrison, Secy.

Ala., Birmingham—Filling Station—Standard Oil Co. will erect filling station, Ave. F and 8th St.

Ala., Montgomery—Filling Station—Standard Oil Co. will erect filling station, Adams and Perry Sts., \$8,000.

Fla., Gardner—Garage—Lamb's Garage, capital \$10,000, inceptd. with Cecil Lamb, Prest.; Ernest Miller, Secy.—Treas.

Fla., Jacksonville—Automobile Repairing—Edwards O'Dell & Hooten Co., capital \$100,000, inceptd. with N. C. Edwards, Prest.; J. F. O'Dell, Secy.—Treas.

Fla., Tampa—Automobile Accessories—McCulloch Service & Mfg. Co., capital \$50,000, inceptd. with F. L. McCulloch, Prest.; M. G. Gibbons, Secy.—Treas.

Ga., Atlanta—Automobiles—Willys-Overland Corp., E. N. Culver, Asst. Gen. Sales Mgr., Toledo, O., reported to establish 14 distributing points, remodel and increase capacity of local plant, M. S. Meutzer, Mgr.

Ga., Augusta—Filling Station—Standard Oil Co. will erect filling station, 15th St. and Walton Way; purchased site.

Ky., Louisville—Motors—Klein Motor Co. Harry J. Klein, Prest., increased capital from \$25,000 to \$75,000.

Ky., Maysville—Transportation—Kentucky Transportation Co., inceptd. by W. P. Farley, William Yarber and Albert Wilkinson.

Md., Baltimore—Garage—George C. Thomas, 712 Law Bldg., will erect 1-story 105x41-ft. garage capacity 20 cars.

Md., Baltimore—Garage—Margaret E. Cleary will erect 1-story, 50x25½ ft. garage, on Reisterstown Rd. near Classon St.

Md., Baltimore—Garage—Retzler Garage, 113 N. Greene St., will erect 2-story brick garage and show room; estimated cost \$13,000; capacity 75 cars. (Supersedes recent item.)

Md., Cumberland—Motors—Paragon Motor Co., Philip W. Blake, Prest., let contract to Wm. J. Morley to erect 1-story 168x140-ft. motor car plant; F. F. Hackethal Chief Engr.

Mo., St. Louis—Garage—William F. Parks will erect garage; purchased site with 100-ft. frontage, Grand Ave.

N. C., Burlington—Garage—Walker E. Love and Glenn Huffman will erect 35x140-ft. 1 story brick garage; purchased site.

N. C., Greensboro—Garage, etc.—Ham Estate, Inc., will install filling station, tire and battery repair shop, automobile accessory store and car washing station in Guilford County jail bldg.; contemplate expending from \$15,000 to \$20,000 on improvements.

N. C., Raleigh—Automobiles—Southeastern Distributing Co., capital \$100,000, inceptd. by W. S. McDonald, M. R. MacPhail and W. J. Browne, Charlotte, N. C.

S. C., Columbia—Garage—Whitton Auto Wrecking Co. inceptd. by W. B. Whitton and W. L. Morris.

S. C., Greenville—Service Station, etc.—J. H. Morgan let contract to Jamison & Morris to erect 2-story and basement 40x100-ft. sales and service station; Beauchamp & LaGrando, Archt.

S. C., Greenville—Service Station—White-way Service Station, inceptd. with W. T. Bull, Prest.; S. B. Gerald, Secy.

S. C., Greenville—Garage—John H. Williams, College and Towne Sts., acquired 40x120-ft. building, will remodel for garage and show room.

Tenn., Memphis—Garage—W. E. Engine Co., 290 E. Court St., will erect 1-story garage, \$22,000.

Tex., Austin—Motors—Fromme Motor Co., capital \$75,000, inceptd. by Ben Fromme, F. E. Pryor and Axel V. Bothager.

Tex., Dallas—Garage—Owl Auto Rent Service, capital \$30,000, inceptd. by W. J. Odum, J. C. Bird and Frank Wilson.

Tex., San Antonio—Tires—Travis Tire Co., capital \$10,000, inceptd. by W. B. Moss and J. W. Wharton.

W. Va., Clarksburg—Garage, etc.—Clarksburg Auto Service Co., capital \$10,000, inceptd. by Samuel W. Trenary, Charles E. Stoiler and Marshall W. Logue.

W. Va., Parkersburg—Garage—Ferree Motors Co., D. P. Ferres, Prest., 615 7th St. will erect 2-story 50x140-ft. garage; construction by day labor.

Railway Shops, Terminals,

Miss., McComb—Illinois Central R. R., F. L. Thompson, Ch. Engr., Chicago, Ill., contemplates erecting car repair sheds to replace burned structures.

Va., East Radford—Norfolk & Western Ry., J. E. Crawford, Ch. Engr., Roanoke, Va., let contract to Pettyjohn & Co., Lynchburg, Va., to erect 40-stall roundhouse. (Lately noted.)

Road and Street Construction.

Ala., Birmingham—Jefferson County will repair and resurface West highway beginning at Helena Station and going through Ensley and Fairfield; bids until Oct. 25; C. J. Rogers, County Highway Engr. (See Machinery Wanted—Road Construction.)

Ala., Birmingham—Jefferson County will grade road leading from Leeds to Vincent; 2 mi.; bids until Oct. 25; C. J. Rogers, County Highway Engr. (See Machinery Wanted—Grading.)

Ala., Fort Payne—City will construct 5,700 sq. yds. sidewalk; 4,400 lin. ft. curb, guttering, etc.; \$20,000 available; bids opened; Robert L. Totten, Engr., Jefferson County Bank Bldg., Birmingham, Ala. (Lately noted.)

Ala., Fort Payne—De Kalb County will construct 17.76 mi. road between Fort Payne and Collinsville; part of Big Wills Valley road; chert construction; cost \$167,329.64. Address County Commrs.

Ala., Gadsden—City will pave Randall, Duncan, Bay, 12th, Sixth Ave. and other streets; cost \$143,500; bids until Oct. 17. Address The Mayor. (Lately noted.)

Ark., Little Rock—Comms. Curb, Gutter and Plumbing Distrs. Nos. 295 and 301 and Street Improvement Distrs. 296 and 302 will pave streets; 24,000 sq. yds. paving; 10,000 cu. yds. grading; storm sewer; etc.; bids opened Oct. 8 at office of Dickinson & Watkins, 610 Boyle Bldg.

Ark., Pine Bluff—City plans paving 30

blocks streets between Martin and Harding Aves. and Main and Olive Sts. Address The Mayor.

Fla., Bartow—Polk County sold \$40,000 bonds for road construction in Special Road and Bridge Dist. No. 6. Address County Commrs.

Fla., De Land—State Road Dept., Tallahassee, Fla., will construct 20 mi. road in Volusia County from De Leon Springs to Putnam county line; county has \$200,000 available; shell or rock and asphalt; will let contract.

Fla., Lake Wales—City will construct 200,000 sq. yds. street paving; cost \$500,000; C. C. Thullbery, Ch. Street Committee; J. W. Turner, Engr., Lakeland, Fla.

Fla., Ocala—Marion County will construct 9.5 mi. Road No. 4 in Dunnellon Special Road and Bridge Dist. No. 2; bids opened; T. D. Lancaster, Jr., Clk. County Commrs.

Fla., Pablo Beach—Buick & Buick, Jacksonville, Fla., will develop land in Pablo Beach including grading of streets, etc. (See Land Development.)

Fla., Pensacola—City will pave West Garden St.; concrete; \$12,000. Address Commr. Hinrichs.

Ga., Decatur—City will construct .71 mi. street paving; 11,000 sq. yds. asphaltic concrete; 1,375 lin. ft. granite curbing, etc.; bids opened Oct. 8; P. P. Pilcher, City Mgr.

Ky., Hardinsburg—State Highway Comsn., Frankfort, Ky., let contract to J. C. Williams, Winchester, Ky., at \$114,460 to grade and drain 12 mi. road in Breckinridge County. (Lately noted inviting bids.)

Ky., Hawesville—State Highway Comsn., Frankfort, Ky., let contract to J. C. Williams, Winchester, Ky., at \$85,765 to grade and drain 7 mi. road in Hancock County. (Lately noted inviting bids.)

Ky., Louisa—State Highway Comsn., Frankfort, Ky., let contract to R. G. Hill, Tazewell, Tenn., at \$246,114 to grade and drain 18 mi. road in Lawrence County. (Lately noted inviting bids.)

Ky., Morganfield—State Highway Comsn., Frankfort, Ky., let contract to Costello Bros. & Mays, Knoxville, Tenn., at \$56,041 to grade and drain 9 mi. road in Union County. (Lately noted inviting bids.)

Ky., Pikeville—State Highway Comsn., Frankfort, Ky., let contract to Dempsey Construction Co., Knoxville, Tenn., at \$246,345 for grading and draining 9 mi. road in Pike County.

Ky., Richmond—State Highway Comsn., Frankfort, Ky., let contract to Carey-Reed Construction Co., Lexington, Ky., at \$230,111 to construct 7 mi. Dixie highway in Madison County; reinforced concrete. (Lately noted inviting bids.)

La., Hahnville—St. Charles Parish Police Jury let contract to Burbank & Bolen, at \$39,617.00 to construct graveled road from Drestrhan to St. John line.

La., Hahnville—St. Charles Parish will repair roads; invites bids. Address Police Jury.

Md., Annapolis—State Roads Comsn., 601 Garrett Bldg., Baltimore, let contract to T. B. Lewis & Sons, Hyattsville, Md., at \$20,360 to construct 1.85 mi. gravel road in Anne Arundel County from Steuarts Corner toward Davidsonville; Contract AA-22. (Lately noted inviting bids.)

Md., Frederick—State Roads Comsn., 601 Garrett Bldg., Baltimore, let contract to M. J. Grove Lime Co., Frederick, Md., at \$24,680 to construct 1 mi. concrete shoulders, curbing and gutters along road through Middletown, Frederick County; Contract F-46. (Lately noted inviting bids.)

Md., Towson—State Roads Comsn., 601 Garrett Bldg., Baltimore, let contract to Baltimore Asphalt Block & Tile Co., 1320 N. Monroe St., Baltimore, to resurface 1.08 mi. old macadam road along Frederick pike from new city line to Catonsville. (Lately noted inviting bids.)

Miss., Jackson—Hinds County, Learned Separate Road Dist. voted Oct. 4 on \$20,000 bonds to construct roads. Address County Commrs.

Mo., Delta—Allhands & Davis, Joplin, Mo., have contract to construct 4 mi. road No. 2 from Delta south toward Stoddard county line at \$14,500.

Mo., Jefferson City—City will pave McCarty St. between intersection of McCarty St. and Locust St.; 1,912 sq. yds. reconstructed base course; 1,912 sq. yds. bituminous macadam surface course; bids until Oct. 14; F. E. Ross, City Engr. (See Machinery Wanted—Paving.)

Mo., New London—Ralls County will rebuild old toll road from Hannibal to New London; gravel construction; cost \$53,000. Address County Commrs.

Mo., St. Louis—St. Louis County Improvement Assn., Charles Erd, Prest., will improve 2½ mi. Page Ave.; sell \$55,000 bonds.

Mo., West Plains—Howell County will sell \$200,000 bonds for road construction; Ward Ellis, County Clk.

N. C., Columbia—North Carolina State Highway Comsn., Raleigh, N. C., will construct 6.91 mi. State highway in Tyrrell County; State Project 558; 16,220 cu. yds. top-soil or sand-clay surfacing; 35,000 cu. yds. drainage ditches; etc.; bids until Oct. 20. (See Machinery Wanted—Road Construction.)

N. C., Edenton—Chowan County will sell \$300,000 road construction bonds; R. W. Boyce, Clk. Commrs.

N. C., Gastonia—North Carolina State Highway Comsn., Raleigh, N. C., let contract to W. F. McCanness, Charlotte, N. C., to construct 3.2 mi. road in Gaston County. (Supersedes recent item.)

N. C., Greensboro—State Highway Comsn., Raleigh, N. C., will let contract in November for constructing 11 mi. Greensboro-Gibsonville road; probably asphalt; cost about \$385,000.

N. C., Halifax—North Carolina State Highway Comsn., Raleigh, N. C., will construct 5.67 mi. State highway in Halifax County; State Project 601; 59,930 sq. yds. penetration macadam; etc.; bids until Oct. 20. (See Machinery Wanted—Road Construction.)

N. C., Huntersville—Dist. Engr. Prigden, Charlotte, N. C., will probably let contract in October for construction of 22 mi. roadway between Huntersville and Statesville.

N. C., Marion—Town will construct 20,000 sq. yds. paving, etc.; bids opened Oct. 5; H. H. Tate, Mayor; R. L. Greenlee, Engr., Statesville, N. C.

N. C., Nashville — North Carolina State Highway Comsn., Raleigh, N. C., will construct 9.83 mi. State highway in Nash-Franklin-Wake counties; State Project 515; 25,900 cu. yds. top-soil or sand-clay surfacing; bids until Oct. 20. (See Machinery Wanted—Road Construction.)

N. C., Nashville — North Carolina State Highway Comsn., Raleigh, N. C., will construct 11.22 mi. State highway in Nash County; State Project 513; 29,400 cu. yds. top-soil or sand-clay surfacing; bids until Oct. 20. (See Machinery Wanted—Road Construction.)

N. C., Swanquarter—North Carolina State Highway Comsn., Raleigh, N. C., will construct 4.30 mi. State highway in Hyde

County; State Project 564; 11,350 cu. yds. top-soil or sand-clay surfacing; bids until Oct. 20. (See Machinery Wanted—Road Construction.)

N. C., Wilmington—City will pave Second St. between Market and Dock Sts.; also Red Cross St. between Fourth and Seventh Sts.; both vitrified brick. Address The Mayor.

Okla., Ada — City will pave Mississippi Ave.; concrete; Street Improvement Dist. No. 9; bids opened Oct. 11; W. B. Jones, City Clk.; Benham & Mullergren, Conslt. Engrs., Firestone Bldg., Kansas City, Mo.

Okla., Ardmore—Carter County plans voting on \$500,000 bonds for road construction. Address County Commrs.

Okla., Clinton—City will pave 50 blocks; will invite bids; Benham & Mullergren, Conslt. Engrs., Kansas City, Mo. Lately noted. (See Machinery Wanted—Paving.)

Okla., Idabel—City may pave streets in business dist.; contemplate calling for bids in November; Benham & Mullergren, Conslt. Engrs., Kansas City, Mo.

Okla., Jay—Delaware County will construct roads; \$27,000 available. Address County Commrs.

Okla., Mangum—City will pave Street Improvement Dist. No. 2; cost \$75,000; Benham & Mullergren, Conslt. Engrs., Kansas City, Mo.

Okla., Purcell—City contemplates paving streets; Benham & Mullergren, Conslt. Engrs., Kansas City, Mo.

Okla., Sulphur—City will pave streets including Muskogee and Davis Aves. and other streets; asphalt and concrete curbsings. Address The Mayor.

S. C., Anderson—Anderson County Highway Comsn. will construct 8.861 mi. Alford's bridge road and 3.857 Anderson-Greenville road; bids until Oct. 18; W. A. Sanders, County Engr. (See Machinery Wanted—Road Construction.)

S. C., Columbia—Richland County will receive alternate bids for construction of Columbia-Charlotte highway; Section A or B of Koon road also Section A or B of Wynnboro road; bids until Oct. 20; John J. Earle, Secy. Permanent Roads Comsn. (See Machinery Wanted—Road Construction.)

S. C., Darlington—City will pave streets; \$150,000; bids within 60 days; Lee, Pennell & Murray, Engrs., Sumter, S. C. (See Machinery Wanted—Paving.)

S. C., Gaffney—Cherokee County will construct 7 mi. top-soil road from Gaffney to cross roads at Goucher; bids until Oct. 18; W. C. Harrick, Chrmn. Highway Comsn. (See Machinery Wanted—Road Construction.)

S. C., Hartsville—City will pave streets; \$200,000; bids within 60 days; Lee, Pennell & Murray, Engrs., Sumter, S. C. Lately noted. (See Machinery Wanted—Paving.)

S. C., Sumter—Sumter County will construct hard-surfaced roads; \$500,000; bids within 60 days; Lee, Pennell & Murray, Engrs., Sumter, S. C. (See Machinery Wanted—Road Construction.)

S. C., Walterboro — Colleton County, Commr. Buckner, let contract to J. E. Toney to construct 6½ mi. Walterboro-Jacksonboro road to foot of Evison causeway.

Tex., Athens—City will sell \$100,000 street improvement bonds; T. B. Wofford, Mayor.

Tex., Beville—U. S. Dist. Engr., Fort Worth, Tex., approved plans for construction of 19.1 mi. 16-ft. gravel bituminous road

on Highway No. 9, Bee County; cost \$113,843.12; T. M. Cox, County Judge; A. C. Hancock, County Engr.

Tex., Breckenridge—Stephens County will construct 33 mi. highway; sold \$1,400,000 bonds. Address County Commrs.

Tex., Cameron—Milam County let contract to Kuykendall & Shelton, Temple, Tex., at \$45,000 to construct 5 mi. section gravel road from Rockdale south. (Lately noted inviting bids.)

Tex., Cameron—Milam County will construct 18.66 mi. graveled surfaced highway; \$125,000 available; A. F. Mitchell, Engr. (Lately noted.)

Tex., Canton—Van Zandt County let contract for construction of 6 mi. Dixie highway; C. L. Hubbard, County Judge. (Lately noted inviting bids.)

Tex., Clarksville—City let contract to McGuire & Cavender, Leavenworth, Kans., to pave 46 blocks; reinforced concrete paving; Roy Goodwin, City Clk. (Lately noted inviting bids.)

Tex., Crockett—Houston County let contract to Smith Bros., at \$125,596.43 to construct 13.73 mi. 20-ft. sand-clay road on Highway No. 21; Natt Patton, County Judge; Guy W. Courter, Conslt. Engr., Marlin, Tex.

Tex., Edinburg—Hidalgo County let contract to W. L. Pearson & Co., Houston, Tex., at \$170,000 to construct 34 mi. road from Edinburg north to Brooks county line; gravel. (Supersedes recent item.)

Tex., Fort Worth—Tarrant County Commrs. Court let road contracts as follows: H. K. McCollum Construction Co., at \$113,323.74 to construct 13 mi. section Fort Worth Hicks road; General Construction Co., at \$218,026.80 to construct Kuteman Cutoff road. (Lately noted inviting bids.)

Tex., Fort Worth — City will improve Magnolia Ave., 2,430 sq. yds. pavement; 1,630 lin. ft. curb; etc.; Bessie St., 1,645 sq. yds. pavement; 1,520 sq. ft. gutter; etc.; and West Myrtle St.; bids opened Oct. 11; D. L. Lewis, City Engr.

Tex., Galveston—Galveston County will build 4,500 lin. ft. concrete retaining wall along Ave. S county road between city limits and point 2,000 ft. west of same and 2 reinforced concrete culverts; bids opened Oct. 10; John M. Murch, County Auditor.

Tex., Galveston—City may improve 10 blocks on Ave. H, also other streets. Address The Mayor.

Tex., Houston—City will probably let contract to Scott Shambaugh, at \$17,029.50 to pave and widen San Jacinto St. from Rusk to McKinney Ave.; O. F. Holcombe, Mayor.

Tex., Jasper—Jasper County Highway Comsn. will sell \$100,000 road construction bonds; J. R. Gill Chrmn., Ridgeland, S. C.

Tex., La Grange—Fayette County received contract for constructing 11.27 mi. Highway No. 3 at \$89,164.03; gravel; subject to approval of State Highway Dept., Austin, Tex.

Tex., Laredo—City will vote Oct. 22 on bonds for paving streets; Leopoldo Villegan, Mayor.

Tex., Marshall — Harrison County sold \$251,000 bonds to complete Harleton, Elysian Fields and other roads; T. S. Caven Commr.

Tex., Midland — State Highway Dept., Austin, Tex., approved plans for construction of 26.9 mi. 16-ft. gravel road on Highway No. 1 in Midland County; R. W. Baker, County Engr., Big Springs, Tex. (Lately noted.)

Tex., Odessa—Ector County will sell \$97,000 road construction bonds; J. T. Cross, County Judge.

Tex., Odessa—State Highway Dept., Austin, Tex., approved plans for construction of 25 mi. 16-ft. gravel road on Highway No. 1 in Ector County; cost \$225,000; R. W. Baker, County Engr., Big Springs, Tex. (Lately noted inviting bids.)

Tex., Pecos — Ch. Engr., U. S. Bureau Public Roads, Washington, D. C., approved plans for construction of 9.7 mi. 16-ft. gravel road on Highway No. 1, Reeves County; cost \$65,000; J. F. Ross, County Judge. (Lately noted inviting bids.)

Tex., Port Lavaca—U. S. Dist. Engr., Fort Worth, Tex., approved plans for construction of 11.4 mi. 14-ft. shell road on Highway No. 29, Calhoun County; cost \$88,000; S. L. Marsh, County Judge; R. H. Phillips, County Engr. (Lately noted inviting bids.)

Tex., Quitman — State Highway Dept., Austin, Tex., approved plans for construction of 4.4 mi. 12-ft. gravel road on Highway No. 15, Wood County; cost \$67,554.67; J. E. Blair, County Engr., Mineola, Tex.; E. F. Cathey, County Judge, Quitman. (Lately noted.)

Tex., San Antonio—U. S. Bureau Public Roads, Washington, D. C., approved project statement for proposed construction of 3.4 mi. gravel bituminous road on Highway No. 2 in Bexar County; cost \$82,661.61; Augustus McCloskey, County Judge; C. E. Hoff, County Engr.

Tex., San Antonio—City let contract to Southwest Bitulithic Co. and Uvalde Asphalt Co., 1 Broadway, New York, at \$42,000 to repair North St. Mary's, East and West Travis, West Commerce, Santa Rosa Ave., etc. (Lately noted.)

Tex., Sherman — Grayson County plans additional road improvements; sell \$38,000 bonds; J. C. Field Engineering Co., County Engr., Denison, Tex.

Tex., Stanton—State Highway Dept., Austin, Tex., approved plans for construction of 13 mi. 16-ft. gravel road on Highway No. 1, Martin County; cost \$100,000; R. W. Baker, County Engr., Big Springs, Tex.; A. G. Odom, County Judge, Stanton. (Lately noted inviting bids.)

Tex., Tahoka—Lynn County issued \$60,000 road bonds. Address County Commrs.

Tex., Uvalde—City will construct 100,000 sq. yds. paving; cost \$60,000. Address The Mayor.

Tex., Vernon—Wilbarger County will construct roads; vote Oct. 29 on \$600,000 bonds. Address County Commrs. (Lately noted.)

Tex., Wharton—Wharton County let contract to E. C. Parker, at \$12,983 to construct Wharton-East Bernard and West Columbia roads; J. P. Taylor, County Auditor. (Lately noted inviting bids.)

Va., Charlottesville—Albemarle County Suprvs. will construct Jarman's Gap road between State highway route No. 9 at Crozet and Miller Dist. line; bids until Oct. 17. (See Machinery Wanted—Road Construction.)

Va., Gate City—Scott County will grade and drain Opossum Creek road between Kermit and Tennessee state line; 6.3 mi.; bids opened Oct. 10. Address County Clk. (See Machinery Wanted—Road Construction.)

Va., Portsmouth—City let contracts to R. G. Lassiter, Norfolk, Va., S. Silvester, Portsmouth, Va., and Cunningham & Melson, Newport News, Va., to construct 60,000 ft. curbs and 20,000 yds. pavement; \$110,000 available; J. F. Weaver, Jr., City Engr.

W. Va., Clarksburg—City let contract to Thoney-Pietro Co., Morgantown, W. Va., at \$33,886.28 to pave 2000-ft. paving on S. Chestnut St.; brick. (Lately noted inviting bids.)

W. Va., Huntington—City will grade, curb

and pave 14th St. between 10th and Charleston Aves.; bids until Oct. 13; Mat Miser, Commr., Streets and Sewers; A. B. Maupin, City Engr. (See Machinery Wanted—Paving.)

W. Va., Madison—Boone County let contract to A. Keathley, Cofoco, W. Va., at \$68,779 to construct Clothier-Sharpley road. (Lately noted.)

W. Va., Moundsville—Marshall County Court let road contracts as follows: Springer & Springer, at \$28,900.50 to construct Sallie Arnold Ridge road; W. and Charles Berry, at \$5,310 to construct Roberts Ridge road.

W. Va., Wheeling—City will pave Baltimore Ave.; H. C. Crago, City Mgr.

Sewer Construction.

Ala., Fort Payne—City, Chas. Landstreet, Clk., plans installing sewer system in 20 blocks; Robt. L. Totten, Const. Engr., Jefferson County Bank Bldg., Birmingham, Ala. (Lately noted.)

Ala., Troy—City will extend sewerage system and curb and gutter work; plans voting on \$25,000 bonds; J. Boyd, Engr., care of State Highway Dept., Montgomery, Ala.

Ala., Tuscaloosa—City, Board of Commrs., D. B. Robertson, Prest., will construct storm water sewers (Ordinance No. 423); 1,680 lin. ft. 30 to 42-in. brick or concrete sewer; 3,236 lin. ft. 12 to 24-in. terra cotta sewer; 15 manholes; 45 drainage inlets; bids until Oct. 18; W. H. Nicol, City Engr. (See Machinery Wanted—Sewers.)

Ark., Little Rock—City will install 2,100 lin. ft. 12-in. storm sewers; 8 catch basins; bids opened; Dickinson & Watkins, Engrs., 610 Boyle Bldg. Address The Mayor. (See Machinery Wanted—Sewers.)

Ark., Piggot—City contemplates installing sewer and water systems; plans voting on \$80,000 bonds; A. C. Moore, Engr., 1710 Murphy St. Joplin, Mo.

Fla., Chipley—City plans constructing sanitary and storm sewers in various streets; J. Boyd, Engr., care of State Highway Dept., Montgomery, Ala.

Fla., Manatee—City, Chas. J. Majory, Clk., will extend sewer and water systems; vote Oct. 21 on \$6,000 bonds; McElroy Engineering Co., Engr., Tampa, Fla.; T. M. McDuffee, Mayor. (Lately noted plans voting.)

La., Jewella, R. D. from Shreveport — United State Sheet & Window Glass Co. of Columbus, Ohio; reported will install sewers through area occupied by plant. (See Miscellaneous Factories.)

La., Shreveport — City, J. McW. Ford, Mayor, will construct storm sewers; voted \$100,000 bonds.

Miss., Greenwood—City will construct storm sewers and install pumps; 2,000 lin. ft. 27-in. vitrified sewer, 4 to 10-ft. cut; 3 manholes; 4 inlets; 300 lin. ft. 36-in. vitrified pipe sewer; 300 lin. ft. 36-in. centrifugal pump with 300-H. P. electric motor, direct connected complete with vacuum priming pump and motor; 40 and 20-H. P. electric motors; bids until Oct. 18; F. T. Walker, City Engr. (Lately noted voted bonds. (See Machinery Wanted—Sewers.)

Mo., Jackson—City will install sanitary sewer system; plans voting on \$100,000 bonds; A. C. Moore, Engr., 1710 Murphy St., Joplin, Mo. (Previously noted.)

Mo., Kansas City—City, Mayor Cowgill will improve Blue River Sewer; vote Nov. 22 on \$450,000 bonds; improve Goose Neck sewer; vote Nov. 22 on \$500,000 bonds; improve general sewers; vote Nov. 22 on \$200,000 bonds; Chas. S. Foreman, Asst. Engr. Water Dept.

Mo., Marcelline—City will install sanitary sewers and 2 sewage disposal plants; cost \$210,000; Benham & Mullergren, Const. Engrs., Kansas City, Mo.

Mo., Sugar Creek—City, E. Deiane, Clk., will install sewer and water systems; Black & Veatch, Engrs., Mutual Bldg., Kansas City, Mo. (Lately noted voted bonds.)

N. C., Asheville—City, P. H. Shoopf, City Pur. Agt., will construct sewer from Hominy Creek to Horney Heights; bids opened. (See Machinery Wanted—Sewers.)

N. C., Charlotte—City Commrs. will extend sewer system; plans issuing \$15,000 bonds. (Lately noted.)

N. C., Greensboro—City, Mr. Painter, Mgr., plans extending sewer and water systems; may vote on \$300,000 bonds.

Okla., Chickasha—City will extend sewer and water systems; vote Oct. 24 on \$50,000 bonds; Jno. C. Milliken, City Engr.

Okla., Fairfax—City will expend \$80,000 to extend sewer, water and lighting systems, and sewage disposal plant; V. V. Long & Co., Const. Engrs., 1300 Colcord Bldg., Oklahoma City. Address The Mayor. (Lately noted voted bonds.)

Okla., Maysville—City will install sewer and water systems; H. G. Olmstead & Co., Engr., Tradesman Bank Bldg., Oklahoma City.

Tex., Beaumont—City will expend \$250,000 to construct concrete storm sewers. Address The Mayor.

Okla., McAlester—City, E. M. Fry, Mgr., will construct sewage disposal plant and outfall sewer; install Imhoff tanks and sprinkling filters; bids opened last of Oct.; Benham & Mullergren, Const. Engrs., Kansas City, Mo. Previously noted voted bonds. (See Machinery Wanted—Sewers.)

Okla., Pauls Valley—City, Joe S. Bottoms, Secy., will construct 18-24-in. storm sewers; plans voting on bonds; V. V. Long & Co., Const. Engrs., 1300 Colcord Bldg., Oklahoma City. (Lately noted.)

Okla., Pawhuska—City, W. I. Broadbuss, Clk., will expend \$76,000 to construct sewerage disposal plant and storm sewers; H. D. Olmstead & Co., Engrs., Tradesman Bank Bldg., Oklahoma City. (Lately noted voted bonds.)

Okla., Purcell—City will improve sewer, water and lighting systems; Benham & Mullergren, Const. Engrs., Kansas City, Mo.

Okla., Wilson—City, Isaac Roberts, Mayor, will extend sewer system; vote Oct. 19 on bonds. (Lately noted plans voting.)

S. C., Walhalla—City, W. M. Brown, Mayor, plans installing sewer and water systems; voted Oct. 4 on \$120,000 bonds. (Lately noted plans voting about Nov. 1.)

Tex., Brownwood—City, J. R. Looney, Mgr., will construct 18-in. sewers, 6 ft. deep. (Lately noted voted bonds.)

Tex., Slaton—City, R. J. Murray, Mayor, plans constructing sewerage and water systems.

Shipbuilding Plants.

Fla., Miami—Shipbuilding—Marine Service Corp., capital \$25,000, chartered by Louis Marco, C. T. Roberts, and J. E. Sheldon.

Textile Mills.

Ga., Millen—Tire Fabric—Western Reserve Cotton Mills Co., subsidiary of Mason Tire & Rubber Co., Kent., Ohio, purchased Millen Cotton Mills; install looms to mfr. tire fabric.

N. C., Raleigh—Woolen Goods—American Woolen Co., Boston, Mass., is reported contemplating establishing chain of mills in South.

Water Works.

Ark., Hoxie—Missouri Pacific R. R., E. A. Hadley, Ch. Engr., St. Louis, Mo., let contract to Jos. E. Nelson & Sons, Chicago, Ill., at \$135,000, for 5 pumping stations and water treating plants to be erected at Alexandria, La.; Annapolis, Mo.; Hoxie, McGehee and Van Buren; all Ark.

Ark., McGehee—Missouri Pacific R. R., E. A. Hadley, Ch. Engr., St. Louis, Mo., let contract to Jos. E. Nelson & Sons, Chicago, Ill., at \$135,000 for 5 pumping stations and water treating plants to be erected at Alexandria, La.; Annapolis, Mo.; Hoxie, McGehee and Van Buren; all Ark.

Ark., Piggot—City contemplates installing water and sewer systems; plans voting on \$80,000 bonds; A. C. Moore, Engr., 1710 Murphy St., Joplin, Mo. (Lately noted.)

Ark., Van Buren—Missouri Pacific R. R., E. A. Hadley, Ch. Engr., St. Louis, Mo., let contract to Jos. E. Nelson & Sons, Chicago, Ill., at \$135,000, for 5 pumping stations and water treating plants to be erected at Alexandria, La.; Annapolis, Mo.; Hoxie, McGehee and Van Buren; all Ark.

Fla., Daytona Beach—City plans extending water-works. Address The Mayor.

Fla., Manatee—City, Chas. J. Majory, Clk., will extend water and sewer systems; vote Oct. 21 on \$6,000 bonds; McElroy Engineering Co., Engr., Tampa, Fla.; T. M. McDuffee, Mayor. (Lately noted plans voting.)

Fla., Valparaiso—City, A. P. Kastler, Clk., will install water-works; 12,000 ft. 4 to 8-in. cast iron pipe; 30,000-gal. steel tank on 100-ft. tower; internal combustion motor, belt connected to centrifugal or rotary pump, capacity 150 to 250 G. P. M.; 10 fire hydrants and necessary pipe specials; bids until Oct. 18. (Lately noted bids until Sept. 15. (See Machinery Wanted—Water-Works.)

Ga., Perry—City will improve water and light systems; vote Oct. 17 on \$15,000 bonds. Address The Mayor.

Ga., Pinehurst—City issued \$10,000 water-works bonds. Address The Mayor.

Ga., Thomasville—City, D. R. Fringle, Supt. Water and Light Dept., let contract to Wood-Rucker Construction Co., 502 Walton Bldg., Atlanta, Ga., at \$16,000, to construct 600,000-gal. capacity water storage concrete reservoir; 80x64x15 ft. deep; E. M. Smith, Jr., City Clk., Norcross & Keis, Engr., Atlanta, Ga. (Lately noted.)

Ky., Owensboro—City, plans expending \$10,000 to improve water-works; install motors and pumps, pipes, valves, etc. Address The Mayor.

La., Alexandria—Missouri Pacific R. R., E. A. Hadley, Ch. Engr., St. Louis, Mo., let contract to Jos. E. Nelson & Sons, Chicago, Ill., at \$135,000 for 5 pumping stations and water treating plants to be erected at Alexandria, La.; Annapolis, Mo.; Hoxie, McGehee and Van Buren; all Ark.

La., Cedar Grove—City, Mayor Hendricks, plans installing water-works; \$300,000 available.

La., Jewella, R. D. from Shreveport—United States Sheet & Window Glass Co., of Columbus, Ohio; reported will erect reinforced concrete reservoir with 1,500,000-gal. storage capacity; drill several wells to supply water plant. (See Miscellaneous Factories.)

Md., Baltimore—Public Improvement Comm., Robt. Garrett, Chrmn., is reported to have acquired Artesian Water Co.'s plant and its subsidiary companies; Mayor Wm. F. Broening, Prest. Board of Awards; Wm. A. Megraw, Water Engr.

Md., La Vale, P. O. Cumberland—Lavale

Water Co., capital \$25,000, inceptd. by J. Milton Patterson, Bradford L. Gibbs and J. Geo. Smith.

Mo., Annapolis—Missouri Pacific R. R., E. A. Hadley, Ch. Engr., St. Louis, Mo., let contract to Jos. E. Nelson & Sons, Chicago, Ill., at \$135,000, for 5 pumping stations and water treating plants, to be erected at Alexandria, La.; Annapolis, Mo.; Hoxie, McGehee and Van Buren; all Ark.

Mo., Liberty—City, E. B. Black, Clk., will expend \$60,000 to improve water-works; consisting of 235,000-gal. steel standpipe; water softening plant; two 500,000 gal. capacity electric driven low, and two 500,000 gal. capacity electric driven high service pumps; W. E. Barnes, City Engr. (Lately noted voted bonds.)

Mo., St. Louis County—West St. Louis Pipe Line Co., St. Louis, subsidiary of West St. Louis Water & Light Co., organized with J. E. Riley, Treas.; lay 8-mi. mains. (Lately noted inceptd., capital \$150,000.)

Mo., Sugar Creek—City, E. Delane, Clk., will install water and sewer systems; Black & Veatch, Engrs., Mutual Bldg., Kansas City, Mo. (Lately noted voted bonds.)

N. C., Greensboro—City, Mr. Painter, Mgr., plans extending water and sewer systems; erect water reservoir on Reedy Fork; may vote on \$300,000 bonds. (Lately noted.)

Okla., Chickasha—City will extend water and sewer systems; vote Oct. 24 on \$50,000 bonds; Jno. C. Milliken, City Engr.

Okla., Cordell—City, Carl Copeland, Mayor, let contract to E. G. Fiske & Co., 23 Neb. Bldg., Tulsa, Okla., at \$39,538, improve water-works; install filtration plant; V. V. Long & Co., Engrs., 1300 Colcord Bldg., Oklahoma City. Lately noted. (See Machinery Wanted—Filter Equipment; Sand; Gravel.)

Okla., Duncan—City, J. F. Ewell, Mgr., will improve water and electric light plants, costing \$300,000; bids opened; Benham & Mullergren, Consit. Engrs., Kansas City, Mo. Previously noted voted bonds. (See Machinery Wanted—Water-Works.)

Okla., Enid—City, R. T. Williams, Clk., will improve water-works; vote Oct. 11 on bonds.

Okla., Fairfax—City will expend \$80,000 to extend water, lighting and sewer systems, and sewage disposal plant; V. V. Long & Co., Consit. Engrs., 1300 Colcord Bldg., Oklahoma City. Address The Mayor. (Lately noted voted bonds.)

Okla., Fairland—City will erect water-works addition; vote in Oct. on \$65,000 bonds; H. G. Olmstead & Co., Engrs., 415 Oil Exchange Bldg., Oklahoma City.

Okla., Maysville—City will install water and sewer systems; H. G. Olmstead & Co., Engr., Tradesman Bank Bldg., Oklahoma City.

Okla., Pawhuska—City, W. I. Broadus, Clk., will improve water-works; H. G. Olmstead & Co., Engrs., Tradesman National Bank Bldg., Oklahoma City. (Lately noted voted bonds.)

Okla., Purcell—City will improve water, sewer and lighting systems; Benham & Mullergren, Consit. Engrs., Kansas City, Mo.

Okla., Wilson—City, Isaac Roberts, Mayor, will improve water-works; vote Oct. 19 on \$25,000 bonds. (Lately noted plans voting.)

S. C., Walhalla—City, W. M. Brown, Mayor, plans installing water and sewer systems; voted Oct. 4 on \$120,000 bonds. (Lately noted plans voting about Nov. 1.)

Tenn., Cookeville—Tennessee Polytechnic Institute, O. M. Smith, Prest., will install water system; bids opened.

Tenn., Murfreesboro—City, R. E. Lowe,

Mgr., will improve water-works; contemplates issuing \$50,000 bonds within next six months.

Tex., Cameron—City will install water and electric light plants, or purchase plants in use; Jas. D. Fowler, Engr., 606 Sumpter Bldg., Dallas, Tex. (Lately noted plans voting bonds.)

Tex., Marlin—City will install water-works; voted \$225,000 bonds. Address The Mayor.

Tex., Slaton—City, R. J. Murray, Mayor, plans constructing water and sewerage systems.

Tex., Stamford—City let contract to W. A. Keene, at \$125,000 to complete new plant; machinery purchased; H. J. Bradshaw, Engr. (Lately noted voted bonds.)

Va., Rockymount—City will improve water-works; voted \$25,000 bonds. Address The Mayor.

Va., Galax—Town will expend \$45,000 to construct water-works; 500,000-gal. capacity; will erect brick and concrete building; install centrifugal pumps, motors, filter equipment; 8-in. mains, and valves; B. Kress, Engr., Elkins, W. Va.

Va., Rockymount—City will improve water-works; voted \$25,000 bonds; will extend plant; 250,000-gals. daily capacity; install pumps and engines; bids about Oct. 20 for building and machinery M. B. Hutcherson, Mayor. (See Machinery Wanted—Pumps; Engines.)

W. Va., Star City—Glass—Star Glass Co., let contract to Pittsburgh Bridge & Iron Works, Rochester, Pa., and Farmers' Bank Bldg., Pittsburgh, Pa., to fabricate and erect steel structure for glass mfg. plant; 63,000 ft. floor space; metal sash; mfrs. illuminating glassware.

Woodworking Plants.

Ark., Fordyce—Chairs, etc.—H. H. Darling leased building to mfrs. desks, chairs, kitchen cabinets, etc.

Fla., Miami—Furniture—Moore Furniture Co., capital \$150,000, inceptd. with Theo. W. Moore, Prest.-Treas.; James E. Russell, Secy.

Fla., Sarasota—Bee-Hives, etc.—Sarasota Bee Co. plans to erect plant to mfr. bee hives, beekeepers supplies, etc.

Fire Damage.

Ala., Gadsden—French Dry Cleaning Co.'s plant; loss \$5,000.

Ark., Hamburg—Hamburg Lumber Co.'s furnace and fuel building.

Ark., Morrilton—Morrilton Compress Co.'s plant; loss \$2,000,000.

D. C., Washington—National Hotel, Pennsylvania Ave. and 6th St. Address The Proprietor.

Ga., Royston—Citizens Warehouse Co.'s building.

Ga., Seville—Post Office building; plants of J. Q. Rutland and A. C. Wilson; Dr. J. N. Dorminy's office and fixtures; total loss \$25,000 to \$30,000.

Ga., Thomaston—Lee Institute; loss \$75,000. Address The President.

Ky., Columbia—Bell & Cheatham's store.

Md., Crisfield—Greif Brothers' factory.

C. P. Maddox, Local Mgr.; building owned by Webb Brothers, Crisfield; residences of Will Evans and Will Guy; total loss \$50,000.

Md., Westport Sta., Baltimore—Spanish American Cork Products Co.'s plant, O. J. Harms, Prest., Fish House Road; loss \$75,000.

Mo., St. Louis—Meyers Bros.' commission house.

N. C., Charlotte—Western Newspaper Union branch plant; loss \$100,000.

N. C., St. Pauls—St. Pauls Cotton Mills Co.'s tobacco warehouse.

N. C., Thomasville—Geo. E. Cox's residence on Fife Ave.

Okla., Yahola—T. C. Holquist & Co.'s cotton ginnery and cotton house.

S. C., McCormick—James E. Britt's residence.

S. C., Greenwood—Merchants Grocery Co.'s store owned by W. H. Anderson; loss \$10,000 to \$15,000.

Okla., Shamrock—Owen Gin Co.'s cotton ginnery.

S. C., Spartanburg—Caldwell & Co.'s cotton ginnery; loss several thousand dollars.

Tenn., Brownsville—Plaut House, 301-3 W. Main St., owned by W. W. Crandall, Sr.

Tenn., Milan—R. J. Burrows' department store on Main St.

Tenn., Nashville—Radnor Apartments, owned by Roth-Kirtland Realty Co.; loss \$100,000.

Tex., Dallas—W. J. Smith's barn and garage building.

Tex., Rochelle—Planters' Gin; loss \$20,000. Tex., Wichita Falls—Valentine Automobile Painting Works; loss \$3,500 to \$4,000.

Tex., Zavalla—C. A. Barge's store; Mrs. Ella Williams' millinery establishment.

Va., Norfolk—J. E. Prince's building on Commercial Pl. nr. Main St.; loss \$15,000.

Va., Petersburg—Pyne & Jones' building on Bollingbrook St.

W. Va., Job—S. K. Cooper's store.

W. Va., Wayne—Wayne County Courthouse; loss \$75,000 to \$125,000. Address County Comrs.

W. Va., Williamson—Sidney M. Musick's garage.

2 stories; wood joists and studs; brick, metal lath and plaster; slate or tile roof; pine floors; H. F. Hinrichs & Sons, Archts., 7336 Irma St., will supervise construction by owner. (See Machinery Wanted—Building Material; Brick; Tile; Metal Lath; Cement.)

Md., Hampden, Sta. Baltimore—Hampden M. P. Church, Rev. E. D. Stone, Pastor, will erect church and Sunday school building on Falls Rd., nr. 36th St.; colonial design; church, 60x100 ft.; Sunday school, 40x70 ft.; stone, brick and wood; slate roof; wood floors; steam heat; electric lights; John Freund, Archt., 1300 St. Paul St., Baltimore. (Lately noted.)

Miss., Shelby—Baptist Church, R. L. Henderson, Chrmn. Trustees, will receive bids until Oct. 17 to erect brick building; plans and specifications from Alsop & Callahan, Archts., 3385 Summer Ave., Box 370, Memphis, Tenn.

Mo., Columbia—Second Christian Church is erecting \$35,000 building; W. A. Miller, Archt.; construction begun.

Mo., Springfield—First Presbyterian Church will erect building; cost about \$100,000. Address The Pastor.

N. C., Charlotte—Dilworth Methodist Church, Rev. L. A. Falls, Pastor, will erect \$200,000 building; brick or stone; slate roof; hardwood floors; metal ceilings; rolling partitions; architect not selected; bids opened probably Jan. 14. (Lately noted.)

N. C., Winston-Salem—St. Leo's Catholic Church, Rev. F. Willbald, Pastor, will erect church and parsonage on W. 5th St.

Okla., Tulsa—Trinity Episcopal Church, Dan Hunt, Chrmn. Bldg. Comm., will erect \$300,000 building; Geo. G. Winkler, Archt. (Previously noted.)

S. C., Chester—First Baptist Church, Rev. Dr. Robt. G. Lee, Pastor, will erect \$75,000 church and Sunday school building; pressed brick; stone trim; Greek doric type; Sunday School building, 2 stories; A. D. Gilchrist, Archt., Rock Hill. (Previously noted.)

S. C., Conway—Methodist Church, South, will erect \$20,000 Sunday school building; 42x80 ft.; brick; tile roof and floors; steam heat; electric lights; A. B. Garren, probable contr.; bids opened Nov. 15 by A. C. Thompson, Chrmn. and Chas. R. Scarborough, Secy. Bldg. Comm. (Lately noted.)

S. C., Union—First Baptist Church, Rev. Dr. Edw. S. Reeves, Pastor, plans to improve building.

Tex., Gainesville—First Baptist Church will erect addition. Address The Pastor.

Tex., Galveston—Trinity Episcopal Church plans to remodel parish house, Eaton Memorial Chapel. Address The Pastor.

Tex., Waco—Turner Street Baptist Church, Rev. Mr. Goodwin, Pastor, plans to erect \$10,000 addition.

City and County.

Miss., Hattiesburg—City Hall—City, W. E. Estes, Mayor Pro Tem, will receive bids until Oct. 20 to erect city hall; 150x151 ft.; white and buff tapestry brick; terra cotta cornice; Bedford limestone trim; 2 stories and basement; yellow pine, concrete and terrazzo floors; Robt. E. Lee, Archt. (Lately noted.)

Mo., Kansas City—Armory, etc.—City will vote Nov. 22 on bonds, including \$500,000 for armory and \$500,000 for negro hospital. Address The Mayor. (Previously noted.)

W. Va., Wayne—Wayne County Comrs. plan to erect courthouse to replace structure noted burned at loss of \$75,000 to \$125,000.

BUILDING NEWS

BUILDINGS PROPOSED

Apartment Houses.

Fla., St. Petersburg—A. Sierkese will erect \$80,000 apartment house on 9th St., north between 2nd and Hanson Ave.; 3 stories; buff brick, green Spanish tile and stucco; 6 stores on first floor; 36 apartments above; H. E. Wendell, Archt.

Fla., West Palm Beach—S. Smedley, Delray, will erect \$20,000 apartment house at 7th Ave. and Dixie Highway; 2 stories; frame; stucco; 8 suites; Bruce Kitchell, Archt.

Mo., Kansas City—W. T. Sacks will erect \$20,000 apartment house at 604-6 E. 41st St.

Tex., Dallas—Finnegan & Cammack will erect \$20,000 apartment house at 4229-33 Lemmon St.; 32 rooms; brick veneer; 8 suites.

Tex., Dallas—Geo. W. Gibson will erect \$24,000 apartment house at 3507-11 Hall St.; 12 rooms; brick veneer; 2 apartment.

W. Va., Charleston—Friedman & Oscherwitz will erect \$10,000 apartment house on Donnelly St., between Laidley and Summers Sts.; 2 stories and basement; 27x80 ft.; brick and tile; 24 rooms.

W. Va., Wheeling—Curtis H. Rice and Zig Zulowski will erect \$65,000 apartment house on National Pike; 827 ft. front; Fred Faris, Archt.

Association and Fraternal.

Ark., Little Rock—Mosaic Templars will erect \$10,000 addition to building at 906 Broadway.

Fla., Key West—Dade Lodge No. 64, F. & A. M. will erect 3-story lodge building at Eaton and Simonton Sts.; brick and stone.

Ky., Louisville—Preston Lodge of Masons will erect \$125,000 temple at Hancock and Jackson Sts.; brick and stone; 60x140 ft.

N. C., Asheville—Young Men's Christian Association will erect \$235,000 building; 3 stories and basement; 110x150 ft.; Jallade, Lindsay & Warren, Archts., 129 Lexington Ave., New York; bids opened Oct. 17; fol-

lowing contractors estimating on general contract, plumbing, heating and electrical work; Z. V. Creasman, J. C. McPherson; on general contract only; G. W. Wren, Vance Henry, G. E. Garland and L. L. Merchant, all Asheville. (Previously noted.)

S. C., Columbia—H. H. Butler, Dist. Grand Secy., Hartsville, will receive bids until Nov. 30 to remodel District Grand Lodge No. 13, Grand United O. of O. F. and District Grand Household of Ruth No. 22 building at 1312 Assembly St.; plans and specifications at office of Dist. Grand Secy.

Va., Clifton Forge—Young Men's Christian Association will erect \$100,000 building; reinforced concrete; swimming pool, gymnasium, dormitory rooms, etc.; Jallade, Lindsay & Warren, Archts., 129 Lexington Ave., New York. (Previously noted.)

Bank and Office.

D. C., Washington—Banking, Trust & Mortgage Co., 1409 H. St., N. W., Col. M. A. Winter, A. H. Fowle and others, Comm., will erect bank building at 14th and 8th Sts., N. W.

D. C., Washington—District of Columbia Bankers Assn., Frank S. Reeside, Chrmn., Bldg. Comm., Chas. J. Bell, John Joy Edson and others, Bldg. Comm., will erect building.

Miss., Fulton—Bank of Fulton will erect \$10,000 building; Kramer & Lindsley, Archts., 50-53 Kress Bldg., Jackson.

Tenn., Bluff City—Bluff City Bank will erect addition and fireproof vault; C. B. Kearfott, Archt., Bristol; bids opened Oct. 8.

W. Va., Clarksburg—Folio Bros., 311 N. 4th St., contemplate erecting 3-story brick building; 1st floor, store; upper floors, offices.

Churches.

Ga., Donalsonville—Methodist Church, J. L. Dickenson, Chrmn., Bldg. Comm., will erect \$25,000 to \$30,000 building.

La., New Orleans—Franklin-Napoleon M. E. Church, Henry J. Veith, Horrace Brownell and J. Han. Meyers, Purchasing Comm., will erect \$100,000 building, lately noted;

Tex., Robstown—Fire Station—City will erect fire station. Address The Mayor.

Va., Portsmouth—Jail—City, J. P. Jervey, City Mgr., rejected all bids except plumbing, to erect and equip jail building; new bids opened Nov. 10. (Previously noted.)

Va., Princess Anne—Jail—Board of Supervisors, John Wood, Chrmn., will remodel county jail and erect jailer's residence.

Dwellings.

Ala., Birmingham—Wm. Leslie Welton is erecting residence on Cliff Rd., Mountain Terrace; Italian-Florentine type; terra cotta and tile; ornamental iron balconies and railings; laundry and garage; plans by owner.

Ala., Tuscaloosa—Cliff Atkinson will erect 10-room residence on Queen City Ave.

Ala., Tuscaloosa—Perry B. Hughes will erect 2 dwellings on 13th St.

Fla., Eau Gallie—William C. Hendrickson, Point Pleasant, N. J., and Eau Gallie, purchased property on Dixie highway and will remodel building and erect 2 bungalows.

Fla., Eustis—Lake County Const. Co., W. M. Igou, Pres.; G. Y. Bast, V.-P. and Gen. Mgr., organized with capital stock of \$100,000; plans to erect 50 to 100 dwellings; cost about \$5000 each.

Fla., Eustis—Allan J. McDonough will erect 2-story dwelling at Eustis St. and Key Ave.

Fla., St. Petersburg—W. A. Westwood purchased property at Broadway and 10th St. and will erect residence.

Fla., St. Petersburg—Chauncey Heagle will erect \$11,000 residence on 12th Ave. nr. 2nd St., north; colonial design; tile roof.

Ga., Griffin—A. S. Black and Geo. Aiken are erecting 5 dwellings on Atlanta branch of Dixie Highway.

Ga., Griffin—Bolis George is erecting 2 dwellings on the north side.

Ga., Griffin—T. L. Shepard is erecting 12 dwellings on W. Broad St.

Ky., Louisville—Frank Short will erect 2 dwellings at 2153 and 2157 Sherwood St.; cost \$10,000.

Ky., Louisville—Miss R. Cassella will erect \$10,000 residence at 2150 Baringer St.

Miss., Jackson—Chamber of Commerce is promoting organization to erect 25 farm houses in Hinds County.

Md., Baltimore—West Forest Park Co., Liberty Heights and Clarendon Aves., will erect 7 dwellings at 4501-13 Springdale Ave.; cost \$21,000; and 2 at 4411-13 Springdale Ave.; cost \$6000; frame.

Md., Baltimore—Chas. B. Burdette, 2019 W. Lexington St., will erect 3 two-story frame cottages at Hazlett and Parkton Sts.; cost \$12,000.

Md., Baltimore—Walter Koch, 2902 Springhall Ave., will erect 17 two-story dwellings at Towanda and Springhill Aves.; cost \$75,000; one, 38x66 ft.; sixteen, 22x33 ft.; brick and concrete.

Md., Baltimore—Jacob Mizen, 4013 Park Heights Ave., will erect 10 two-story brick dwellings at Waldorf and Umatilla Aves.; cost \$20,000.

Md., Catonsville—W. G. Wimmer, 1302 S. Charles St., will erect residence on Rolling Rd., nr. Edmondson Ave.; 40x40 ft.; Walter M. Gieske, Archt., Gunther Bldg., both Baltimore.

Mo., Belton—W. A. Pickering will erect \$50,000 residence about 8 ml. from Belton; Selby H. Kurfuss and Root & Siemens, Asso., Archts., Kansas City.

Mo., Kansas City—F. W. Baker purchased property at 52nd St. and College Ave. and plans to erect 20 or more dwellings.

Mo., Kansas City—A. J. King Realty Co. will erect 5 frame dwellings; cost \$20,000.

Mo., Kansas City—J. J. Connor will erect \$15,000 residence at 1146 Stratford Rd.

Mo., Kansas City—S. H. Kinney will erect 2 dwellings at 5539-41 Chrestwood Dr.; cost \$15,000.

Mo., Kansas City—J. L. Ward will erect 5 dwellings at 4442-50 S. Benton St.; cost \$15,000.

Mo., Kansas City—R. L. Winter & Co. will erect 22 dwellings near Benton Blvd.

Mo., St. Louis—Harry E. Prettyman Realty Co., 104 N. 8th St., will erect 250 dwellings; cost \$10,000 each; frame, hollow tile, stucco and brick; city lights; hollow fireproof tile; hardwood floors; plaster board; ornamental terra cotta; interior tile; Geo W. Pipe, Chas. Deetring and others, Archts.; open for bids on all work; will install own mill and organize working force.

N. C., Charlotte—Dr. John R. Irwin will erect \$16,000 residence on Queens Rd.; 8 rooms.

N. C., Charlotte—R. Malever will erect \$15,000 residence on Queens Rd.; 8 rooms.

N. C., Charlotte—Dr. Geo. W. Graham will erect \$20,000 residence on Hermitage Court; 7 rooms.

N. C., Charlotte—W. F. Casey will erect \$20,000 residence; brick veneer; slate roof; hot water heat; Willard G. Rogers, Archt.

N. C., Rockingham—W. P. McRae will erect \$30,000 residence; 2 stories; frame and brick; hardwood and tile floors.

Okla., Tulsa—Frank E. James is erecting 2-story brick veneer residence at 1225 E. 18th St.

Okla., Tulsa—C. J. Smith will erect \$35,000 residence at 1205 E. 9th St.; brick veneer; 2 stories and basement; 50x52 ft.

Okla., Tulsa—J. H. Maxey will erect \$17,000 addition to residence at 1644 S. Cheyenne St.; 2 stories, brick and tile.

S. C., Cedar Spring—Dr. J. F. Cleveland, Spartanburg, will receive bids until Oct. 14 to erect Superintendent's residence at South Carolina School for Deaf and Blind; drawings and specifications at office of Edwards & Sayward, Archts., 609 Chamber of Commerce Bldg., Atlanta, Ga.; at office of N. F. Walker, Supt., Cedar Spring and office of Builders' Exchange, Columbia, S. C. and Atlanta, Ga.

S. C., Columbia—Home Building Co., E. L. Summersett and others, will erect 7 dwellings on Green St., between Pickens and Henderson Sts.; cost \$30,000.

S. C., Rockingham—W. P. McRae will erect \$30,000 residence; 2 stories; 37.6x65 ft.; frame and brick veneer; tile roof; oak floors; ornamental terra cotta; interior tile.

Tenn., Memphis—C. E. Elliott will erect brick residence on Poplar Pike, between Highland and Cherry Aves.

Tex., Dallas—T. A. Manning will erect \$15,000 residence at 5211 Live Oak St.; 8 rooms; brick veneer.

Tex., Dallas—Louis N. Tobian will erect \$10,000 residence at 2521 S. Boulevard; 2 stories; frame and stucco.

Tex., Houston—R. W. Stuart will erect \$16,000 residence on Greely St.; 20 rooms; 2 stories.

Va., Graham—R. E. Baldwin will erect 5 dwellings on Baldwin Court; ultimate plans provide for number of dwellings.

Va., Roanoke—Raleigh Court Land Co. will erect 2 two-story brick dwellings; cost \$10,000.

Va., Roanoke—T. E. B. Hartsook will erect 18 brick and frame residences on Riverland Rd., in connection with development.

W. Va., Charleston—Potet & Woodroe, Inc., will erect number of dwellings; capital stock, \$200,000.

W. Va., Shinnston—Frank Abbruzzino will erect 3-story residence on Bridge St.; 18 rooms; cost about \$30,000.

Government and State.

D. C., Anacostia—Storehouse—Bureau of Yards and Docks, C. W. Parks, Chf., Navy Dept., Washington, D. C., will receive bids until Oct. 12 to erect 1-story frame storehouse at naval air station; 21x41 ft.; drawing and specification No. 4516 from Bureau.

Hospitals, Sanitariums, Etc.

Fla., Lakeland—City will vote Nov. 8 on \$70,000 bonds for hospital improvements; repair Morrell Memorial Hospital and erect addition; also erect \$5000 or \$4000 negro hospital. Address The Mayor.

Ga., Atlanta—City plans to erect \$200,000 addition to Grady Hospital. Address The Mayor.

Ky., Paducah—McCracken County, Wynn Tully, Comsr. of Public Finance, will vote Nov. 8 on \$60,000 hospital bonds.

N. C., Wilmington—Directors of James Walker Memorial Hospital, will erect nurses' home; cost \$60,000; 3 stories; accommodate 50 nurses; Jas. B. Lynch, Archt.

Hotels.

Ala., Carbon Hill—J. S. Shannon, 619 First Natl. Bank Bldg., Birmingham, will erect 2-story hotel and store building lately noted; 50x140 ft.; brick, cement and hollow fireproof tile; felt, tar and gravel roof; interior tile; hardwood and concrete floors; plaster board; wire glass; steel sash and trim; ventilators; vaults; electric lights; cost \$15,000; H. J. Dawson Archt., Birmingham. Address owner. (See Machinery Wanted—Heating Plant; Plate Glass.)

Ark., Conway—R. E. Oliver Construction Co. will erect Revilo Hotel; 3 stories; fireproof; 60 rooms. (Lately noted.)

Ky., Harlan—J. S. Kelly will erect \$70,000 hotel; 4 stories; 40x102 ft.; stone and brick; hardwood and wood block floors; metal doors; steel sash and trim; steam heat; electric lights; electric elevators; 60 rooms; contract let for excavation of foundation and basement; bids opened this month. (See Machinery Wanted — Building Material; Brick; Cement; Lime; Steel Beams; Nails; Millwork.)

Miss., Gwin—Xavier A. Kramer, McComb will erect hotel building; Kramer & Lindsley, Archts., 50-53 Kress Bldg., Jackson.

N. C., Lake Waccamaw—Marvin White, G. R. White and Fitzhugh Formy-Duval organized company with \$80,000 capital and plan to erect hotel.

S. C., Anderson—Citizens Hotel Co., A. S. Farmer, Chrmn. Bldg. Comm., is considering erection of building.

Tenn., Ducktown — Ducktown Hotel Co. will erect \$10,000 building; 2 stories and basement; brick; composition roof; wood floors; steam heat, \$2500; electric lights, \$300; bids opened; Ralph A. Watson, Archt., Copper Hill. Address Chas. E. Taylor, Ducktown. (Lately noted.)

Tex., Stamford—Brown Hotel Co. will erect 18-room brick building on Ferguson St.

W. Va., Buckhannon—New Colonial Inn Mrs. Florence Schobe, Prop., will erect \$50,000 addition; 3 stories and basement.

39x85 ft.; stucco, hollow tile and brick; A. Breitenitz, Archt., Fordyce Bldg., Clarksburg.

W. Va., Logan—Fred Haislip and Ben Tobin will not erect hotel as lately reported.

Miscellaneous.

Fla., Tampa—Home—Children's Home, D. B. McKay, Chrmn. Comm., will erect building at Florida Ave. and Adalee St.; fireproof; cost \$100,000; M. Leo Elliott, Archt. (Previously noted.)

Ky., Lexington—Market—Sanitary Market Co., B. J. Treacy, Prest., 108-10 W. Short St., will erect market at Limestone and Barr Sts.; 70x165 ft.; 2 stories; refrigeration plant in basement; fireproof; brick; vitrolite glass fixtures; cost \$250,000; also erect residence in rear of market; Jno. V. Moore, Archt. (Previously noted.)

N. C., Asheville—Clubhouse—Woman's Club, Mrs. Jas. M. Gudger, Chrmn. Bldg., Comm., will erect \$50,000 clubhouse at Church St. and Ravenscroft Rd.; brick; Italian Renaissance type; Roland Greene, Archt.

S. C., Sumter—Clubhouse—Sumter Country Club, Leland Moore, Prest., will erect clubhouse; construct 18-hole golf course; Mr. Reynolds, Archt., Columbia.

Tenn., Jackson—Baseball Park—Jackson Athletic Assn., E. Fulghum, Mgr., will construct 20,000 baseball park, lately noted; grandstand to have seating capacity 4000; frame and concrete; fireproof roof; wood floors; hot and cold baths; electric lights. (See Machinery Wanted—Grandstand.)

Railway Stations, Sheds, Etc.

La., Baton Rouge—Yazoo & Mississippi Valley R. R., M. B. Morgan, Dist. Engr., Memphis, Tenn., will erect passenger depot.

Okl., Tulsa—American Express Co. will erect 2-story brick addition to stable at 23 N. Detroit St.; also remodel present structure for housing equipment; cost \$16,000.

S. C., Belton—Piedmont & Northern Ry. E. Thompson, V.-P. Gen. Mgr., Charlotte, N. C., will erect passenger station on O'Neil St.

Schools.

Ala., Birmingham—City Commission, Jno. B. Hornady, Commr. of Education, will erect addition to Robinson School, East Lake; 5 rooms; cost \$50,000; Leslie Welton, Archt.; 20-room addition to Avondale School; cost \$130,000; Miller & Martin, Archts.; Wm. B. Ittner, Consult. Archt., Board of Education Bldg., St. Louis; 18-room brick building at Wylam; cost \$120,000; 4-room addition to Fairview School; D. O. Whildin, Archt. for both structures. (Lately noted.)

Ala., Coker—County Board of Education, Tuscaloosa, will erect school.

Ala., Duncanville—County Board of Education, Tuscaloosa, will erect school.

Fla., Yulee—Nassau County Board of Public Instruction, O. T. Weaver, Supt., Fernandina, will erect school; bids opened Oct. 12; plans and specifications at office Superintendent. (Lately noted.)

Ga., Glennville—Glennville School Dist. Board of Trustees, C. L. Cowart, Chrmn., will receive bids until Oct. 17 (extended date) to erect high school; separate bids for heating; 6 rooms; brick and tile; tin roof; wood floors; 1-pipe steam heating system; plans and specifications from Atlanta Builders Exchange, Willis Irvin, Archt., Lamar Bldg., Augusta; C. L. Cowart, Glennville; contractors estimating: King Lumber Co., Charlottesville, Va.; L. R. Blackburn, Statesboro;

Arley & Co., Savannah; W. H. Little, Cordele; I. A. & J. S. Brannen, Metter; Jno. T. Rogers & Co., Vidalia; Holley Construction Co., Augusta; Lawrence Construction Co., Augusta. (Lately noted.)

La., New Iberia—Iberia Parish School Board, L. G. Porter, Secy., will receive bids until Nov. 2 to erect 3-story press brick school; separate bids on building, plumbing and heating; plans and specifications at office Nolan & Torre, Archts., 1000 Canal Commercial Bldg., New Orleans. (Previously noted.)

Md., Baltimore—Johns Hopkins University, Dr. Frank J. Goodnow, Prest., will erect first of 4 dormitories at Homewood; 232x131 ft.; 3 stories and basement; Colonial type; brick; include dining room, commons room, sleeping rooms, etc.; accommodate 146 students; bids opened Oct. 17; Edw. J. Palmer, Jr., Archt., 513 N. Charles St.; contractors estimating: Morrow Bros., Fidelity Bldg.; Frairie Bros. & Haigley, 18 Clay St.; J. Henry Miller, Eutaw and Franklin Sts.; Hicks, Tase & Norris, 106 W. Madison St.; Geo. A. Fuller Co., American Bldg.; Gladfelter & Chambers, 36th St. and Roland Ave.; Consolidated Engineering Co., Calvert Bldg.; Benj. F. Bennett Bldg. Co., 123 S. Howard St.; M. A. Long Co., Munsey Bldg.; Northeastern Construction Co., 702 Lexington Bldg.; Chas. L. Stockhausen Co., Marine Bank Bldg.; Cogswell-Koether Co., 406 Park Ave. (Lately noted.)

Miss., McComb—McColgan Brothers & Sisters Memorial Vocational Training School will erect \$150,000 building; Kramer & Lindsley, Archts., 50-53 Kress Bldg., Jackson.

Mo., Cape Girardeau—State College Board of Regents will erect educational building.

Mo., Kansas City—School Dist. Board of Directors, Jas. B. Jackson, Secy., Public Library Bldg., will erect addition to Faxon School, 37th St.; bids opened.

N. C., Durham—Trinity College Board of Trustees will erect memorial gymnasium; cost about \$125,000.

N. C., Fletcher—Henderson County School Board, H. E. Erwin, Chrmn., Hendersonville, will erect \$40,000 school; 2 stories and basement; brick veneer; E. G. Stillwell, Archt., Hendersonville. (Lately noted.)

N. C., Raleigh—Board of Education is considering expenditure of about \$750,000 for schools to include rebuilding high school, Thompson School, Washington School, additional rooms to Lewis School, new buildings for Pilot and Caraleigh Schools; Mayor T. B. Eldridge, Wade Marr and Supt. S. B. Underwood, Committee.

N. C., Wilson—Saratoga Township School Dist. voted \$25,000 building bonds; R. T. Barnes, Clk., Board of County Commrs. (Lately Noted.)

S. C., Columbia—University of South Carolina, W. S. Currell, Prest., will alter Rutledge College to include carpentry, plastering, plumbing, painting and electric work; bids opened Oct. 15.

S. C., Honea Path—Board of Education, L. L. Wright, Supt., will erect hgh. school; plans election of \$40,000 bonds.

S. C., Union—Union School Dist. voted \$75,000 bonds to erect school; C. T. Murphy, Chrmn. Board of School Trustees. (Lately noted.)

S. C., York—Yorkville School Dist. No. 11, Thos. F. McDow, Chrmn., Bd. of Trustees, will receive bids until Nov. 2 to erect school; cost \$125,000; brick; drawings and specifications at office Edwards & Sayward, Archts., Atlanta, Ga.; Geo. W. Williams, Secy., Bd. of Trustees, York, and at Builders' Ex-

change, Atlanta, Ga., and Columbia, S. C. (Previously noted.)

Tenn., Cookeville—See Tenn., Nashville.

Tenn., Johnson City—See Tenn., Nashville.

Tenn., Memphis—See Tenn., Nashville.

Tenn., Mount Pleasant—Board of Education, Harry Hill, Chrmn. Bldg. Comm., will erect \$80,000 high school lately noted; 150x115 ft.; brick, hollow fireproof tile and frame; built-up roof; hardwood and concrete floors; ornamental terra cotta; interior tile; wire glass; steel sash and trim; ventilators; steam heat; electric lights; gas fixtures; bids opened about Nov. 1. Address Geo. D. Waller, Archt., 413 Independent Life Bldg., Nashville. (See Machinery Wanted—Gas Plant; School Equipment (Domestic Science).)

Tenn., Murfreesboro—See Tenn., Nashville.

Tenn., Nashville—State Board of Education, J. B. Brown, Secy., will erect dormitories at following normal schools: East Tennessee Normal, Johnson City; R. H. Hunt Co., Archt., Chattanooga; Middle Tennessee Normal, Murfreesboro; Henry C. Hibbs, Archt., Nashville; A. & L. Negro Normal, Nashville; Marr & Hohman, Archts., Nashville; Tennessee Polytechnic Institute, Cookeville; Daugherty & Gardner, Archts., Nashville; West Tennessee Normal, Memphis; Mahan & Broadwell, Archts., Memphis; all structures brick, steel and hollow fireproof tile; metal ceilings; hardwood and concrete floors; steel sash and trim; wire glass; total cost \$800,000. Address owner. (Lately noted.)

Tex., Nacogdoches—Board of Education will erect school; \$50,000 bonds voted.

Tex., Palestine—Palestine School Dist. voted \$42,000 bonds. Address Dist. School Trustees.

Tex., Texline—Board of Education will erect high school; 2 stories; brick, stone and reinforced concrete; cost \$160,000; Ends & McClure, Archts.

Tex., Whitehouse—School Board will erect \$15,000 building.

Va., Graham—Clear Fork Dist. School Board plans to erect building.

Va., Portsmouth—Board of Education, H. A. Hunt, Supt., contemplates erecting 8-room addition to Park View school; 12-room annex at I. C. Norcum colored school; 8-room building in Glasgow St. section.

Stores.

Ark., Rison—L. E. Moore will erect building; brick.

Ark., Rison—Dr. N. F. Stanfield will erect brick business building.

D. C., Washington—Chas. Kaufman & Sons, 431-33 7th St., N. W., will expend \$10,000 to remodel store front; base of show windows to be finished in red texture tapestry brick; plate glass will be glazed with copper sash setting and corner bars; cornices of show windows finished with copper; ceiling of show windows paneled and provided with X-ray lighting; floors of display case and show windows finished with oak parquet flooring, etc.

Fla., Fort Lauderdale—L. T. Hunt will erect business building of 3 stores at Brickell Ave. and N. 5th St.; 1 story; 65x40 ft.; tile and concrete; stucco finish.

Fla., Kissimmee—Emmett S. Roloff will erect 2-story business block on Dakin Ave.; 110x60 ft.; concrete blocks; 4 store rooms on first floor; apartments above; construction under supervision of Robt. J. Roloff.

Fla., Miami—W. A. Riddle Co. will erect 2-story concrete block building at N. E. 11th

St. and First Ave.; 150x48 ft. and 78x52 ft.; cost \$17,000.

Fla., Miami—J. G. Baskin will erect business building at N. W. 5th St. and Second Ave.; 99x50 ft.; 1 story; concrete blocks; cost \$11,000.

Fla., Miami—W. H. and G. B. George will erect store building at N. Miami Ave. and 4th St.; 75x110 ft.; 8 store rooms; cost \$12,000.

Mo., Kansas City—J. C. McDonald will erect 2-story brick building at 3009-11-13 Independence Ave.; cost \$15,000.

Mo., St. Louis—E. A. Laumann, 6200 Easton Ave., prepared plans for \$25,000 store and apartment building; 2 stories; 33x74 ft.

N. C., Asheville—S. H. Michalove will erect store and dwelling at No. 9 Central Ave.

N. C., Raleigh—C. V. York will erect three \$5000 buildings at Hayes and Barton Sts.; construction by owner.

N. C., Salisbury—G. W. Wright will erect double 3-story building on W. Inniss St. for stores, offices, lodge and club rooms.

N. C., Wilson—W. D. Hackney will erect \$65,000 building for stores and club rooms; 80x100 ft.; brick and steel; Barrett specification roof; cement and hardwood floors; metal ceilings; ornamental terra cotta; interior tile; metal doors; rolling partitions; wire glass; steam heat; S. B. Moore, Archt.; bids opened.

Okla., Bartlesville—Edw. G. Hanson will erect grocery store and meat market; cost \$60,000.

Okla., Tulsa—L. J. Buck will rebuild 2-story brick building at 23 N. Cincinnati St.; cost \$15,000.

Okla., Tulsa—Jos. Piro will erect 2-story store at 501 E. Archer St.; cost \$12,000.

S. C., Great Falls—Republic Cotton Mills will erect 12 store buildings; 22x60 to 22x80 ft. each; brick and hollow fireproof tile; tar and gravel roof; cement, tile and hardwood floors; interior tile; ornamental terra cotta; metal ceiling; steel sash and trim; electric lights; cost \$50,000; bids opened about Oct. 15. Address J. E. Sirrine & Co., Archts., Greenville. (Lately noted.)

Tex., Coleman—J. E. Stevens & Son will erect store building; brick.

Tex., Dallas—Fakes Furniture Co., W. H. Wray, Prest., 1213-15 Elm St., will erect 8-story building; 62½x200 ft.

Tex., Goose Creek—Claude W. Smith will erect 2-story store and office building; bids opened; Herbert S. Green, Archt., Alamo Bank Bldg., San Antonio.

Tex., Fort Worth—A. Faldez will erect store at Allen Ave. and Yuma St.

W. Va., Mullens—J. R. Hatcher will erect \$20,000 building for stores and apartments; 2 stories and basement; 60x60 ft.; brick and tile; Wysong & Jones, Archts., Charleston.

Theaters.

Ark., Bentonville—Mrs. C. C. Huffman will erect moving picture theater; 80x165 ft.

Md., Baltimore—Theophilus White, Calvert and Baltimore Sts., and associates, Inc., with \$1,250,000; plan to erect \$400,000 moving picture theater on N. Charles St. between North and Lafayette Aves.; 85x126 ft.; seating capacity 1700; E. G. Blanke, Archt., 532 N. Calvert St.

W. Va., Huntington—J. E. Shriver, Columbus, O., and Frank McQuaid, Huntington, plan to erect moving picture theater on Bridge St. between Richmond and Buffington Sts.

Warehouses.

La., Shreveport—United States Sheet & Window Glass Co., Mayor Jno. McW. Ford, Prest., will erect 200x200 ft. warehouse in connection with plant at Jewella; H. E. DeVaughan, Ch. Engr., will supervise construction.

Mo., Kansas City—City Ice & Storage Co. will erect \$20,000 building at 22nd and Washington Sts. and \$35,000 building at 22nd and Harrison Sts.

Va., Richmond—W. B. Staples will erect \$30,000 warehouse lately noted; 56x104 ft.; mill construction; slag roof; maple floors; metal ceilings and doors; wire glass; ventilators; steam heat; electric freight elevator; E. L. Bass, Contr. Address H. Carl Messerschmidt, Archt., Mutual Bldg.

Louisville, Ky.; Louis E. Tate, Contr., First Natl. Bank Bldg., Florence. (Lately noted.)

N. C., Statesville—Lutheran Church, L. L. Lanin, Chrmn. Bldg. Comm., will erect \$35,000 building lately noted; 98x63 ft.; brick; slate roof; oak floors; steam heat; Louis H. Ashbury, Archt., Charlotte; F. P. Moser, Contr., Hickory. (See Machinery Wanted—Pipe Organ; Seating; Furniture; Art Glass; Lighting Fixtures; Heating Plant.)

Tex., Houston—First Baptist Church will erect \$470,000 building; 4 stories; C. D. Hill & Co., Archts.; American Const. Co., Contr. (Lately noted.)

Tex., Waco—St. John's Methodist Church will erect \$100,000 building; Cason Bros., Archts.; J. F. Cason, Contr. (Previously noted.)

City and County.

N. C., Asheville—Fire Station—City will erect \$11,000 fire station on Bartlett St.; bungalow type; T. E. Davis, Archt.; W. V. Henry & Co., Contrs. (Lately noted.)

Dwellings.

Fla., Miami—A. C. Battelle will erect \$18,000 residence at Miami Beach; 63x57 ft.; concrete and tile; tile roof; wood and concrete floors; hollow fireproof tile; H. George Fink, Archt.; John B. Orr, Contr. (Lately noted.)

Fla., St. Petersburg—Chauncey Heagle will erect \$11,000 residence on 12th Ave., north, nr. 2nd St.; colonial type; H. H. Du Pont, Archt.; Franklin J. Mason, Contr.

Ga., Atlanta—Henry H. Heinz will erect residence on Ponce de Leon Ave.; 2 stories and basement; tile roof; hardwood floors; ornamental plaster; steam heat; G. Lloyd Preacher & Co., Archts., Healey Bldg.; address H. J. Carr & Co., Contrs., Candler Bldg.

Ga., Tifton — M. E. Hendry will erect \$12,000 to \$14,000 residence at 10th and North Ridge Aves.; brick veneer; 6 rooms; S. S. Adams, Contr.

Ky., Harlan—Presbyterian Church will erect \$12,000 manse; Nelson Cory, Archt.; General Construction Co., Contr.

La., New Orleans—F. Alaimo will erect \$13,500 duplex residence at Milan and Prieur Sts.; Nolan & Torrey, Archts.; H. A. Lagasse Co., Contr.

La., New Orleans—A. T. Bennett, Banks St. and Hagan Ave., will erect \$10,000 double residence; frame; slate roof; pine floors; Arcola heating plant; Chas. Pumilla, Archt., 2228 Tulane Ave.; Napoleon Constr. Co., Contr., 137 Carondelet St. (Lately noted.)

Md., Baltimore—Saml. Merican, 811 White-lock St., will erect \$10,000 residence on North Rd., nr. Cedar Rd.; 2½ stories; brick; 28.10x33 ft.; slate roof; hot water heat; Herbert Aiken, Archt., 4115 Ridgewood Ave.; H. A. Knott & Co., Contrs., 2101 N. Calvert St. (Lately noted.)

Md., Baltimore—A. E. Pearson, 4107 Springdale Ave., will erect 6 two-story brick dwellings on Walnut Ave., nr. First Ave.; cost \$20,000; Wm. F. Chew & Co., Contrs., 212 Clay St.

N. C., Charlotte—E. E. Boyce, P. O. Box 1335, will erect \$20,000 residence; 67x40.6 ft.; shingle; shingle roof; hardwood and concrete floors; hot air heat; interior tile; ventilators; L. L. Hunter, Archt.; Myers Park Homes Co., Contr. (Lately noted.)

N. C., Goldsboro—H. F. Lee will erect \$13,728 residence; 2 stories; 35x45 ft.; rough

BUILDING CONTRACTS AWARDED

Apartment Houses.

Fla., Miami—J. A. Quinn will erect \$30,000 building on N. E. 2nd Ave., nr. 11th St.; 3 stories; 110x46 ft.; first floor, stores; upper floors, apartments; Halsema Bros., Contrs.

Fla., St. Petersburg—Dr. David Pierce will erect \$10,000 apartment house at 6th St. and 5th Ave., north; 2 apartments; Edgar Ferdon, Archt.; contract let.

La., New Orleans — People's Homestead Assn. will erect \$11,400 duplex apartment house at Fontainebleau Dr. and Broadway; Wm. L. Stevens, Jr., Contr.

Tex., Dallas—Geo. W. Gibson will erect \$24,000 apartment house; 2 stories; brick veneer; tile roof; hardwood floors; steam and gas heat; hollow fireproof tile; plaster board; interior tile; T. J. Galbraith, Archt.; J. L. Beavers, Contr. (Lately noted.)

Association and Fraternal.

W. Va., Matoaka—Odd Fellows Building Corp. will erect \$20,000 building; 3 stories; 30x90 ft.; brick; flat composition roof; wood floors; electric lights; metal ceilings; C. J. Carter, Contr. (Lately noted.)

Bank and Office.

Okla., Tulsa—Dr. Walter E. Wright, 211 Wright Bldg., will erect 8-story addition to office building; cost \$240,000; 40x104 ft.; concrete frame; Barrett 10-year roof; concrete, tile and terrazzo floors; vacuum steam heat, \$30,000; city lights, \$10,000; hollow fireproof tile; ornamental terra cotta; interior tile; metal doors; wire glass; vault lights; Rush, Endacott & Rush, Archts., 101-4 Lorton Bldg.; Geo. W. Langford Co., Contr., 312 Columbia Bldg., Louisville, Ky. (Previously noted.)

Okla., Weleetka—First Natl. Bank will erect building; Mr. Copehart, Contr.

Churches.

Ala., Florence—First M. E. Church, South, M. M. Striplin, Chrmn. Bldg. Comm., will erect building; cost \$92,395; 3 stories; auditorium, 67x56 ft.; Sunday school, 45x88 ft.; brick, stone and concrete; Spanish tile roof; wood floors; low pressure steam heat, \$5000; city lights; plans by Dr. J. A. Baylor, Board of Church Extensions of M. E. Church, South,

fire flashed brick; tile roof; oak floors; vapor heat; electric lights; cost with plumbing, heating and lighting fixtures, \$17,500; John D. Gullett, Archt.; J. W. Jones, Contr. (Lately incorrectly noted under N. C., Greensboro.)

S. C., Columbia—J. C. Townsend will erect \$12,500 residence; 10 rooms; tile and brick veneer; slate roof; pine and concrete floors; hollow fireproof tile; Robt. Eisenschmidt, Archt., Minnaugh Bldg.; Caughman Constr. Co., Contr. (Lately noted.)

S. C., Conway—Peoples Building & Loan Association, A. E. Goldfinch, Secy.-Treas., will erect \$15,000 brick and cement residence for V. F. Platt; \$10,000 residence for W. A. Stille; \$3000 residence for J. C. Jordon; \$3000 residence for R. W. Lane; \$5000 residence for W. F. Alexander, Allen, S. C., and \$7,500 residence for J. B. Cox; frame. (See Machinery Wanted—Building Material.)

W. Va., Bellevue—W. E. Bomley will erect residence on Highland Ave.; A. E. Thomas, Contr.

Hospitals, Sanitariums, Etc.

D. C., Washington—Bureau of Yards and Docks, C. W. Parks, Chf., Navy Dept., Washington, D. C., will erect dispensary at Navy Yard; cost \$54,000; 2 stories; 80x50 ft.; reinforced concrete and pressed face brick; artificial stone trim; wood sash; asphalt asbestos roof; tile and linoleum floors; ornamental iron; plaster; plumbing, heating and lighting in general contract; M. A. Long Co., Contr., Munsey Bldg., Baltimore. (Lately noted.)

Fla., Lake City—Treasury Dept., Jas. A. Wetmore, Acting Suprv. Archt., Washington, D. C., will erect 2 hospital buildings, laundry and refrigerating building at Public Health Service Hospital No. 63; A. Bentley & Sons Co., 616 Atlantic Natl. Bank Bldg., Jacksonville, general offices, Toledo, O., contr. at \$126,300. (Lately noted.)

Tex., Kerrville—Building Board of American Legion Memorial Sanatorium of Texas, Austin, will erect 5 buildings; A. E. Johnson Const. Co., Waco, contr. at \$256,862; A. H. Shafer, San Antonio, plumbing, heating and vacuum cleaning, \$30,241; Philipe & Crowther, San Antonio, wiring 4 buildings, \$13,256; Martin Wright, Dallas, wiring 1 building \$1550. (Lately noted.)

Hotels.

Fla., Orlando—Orange Hotel Co., J. F. Ange, Prest., let contract for steel for \$1,000,000 hotel to Virginia Bridge & Iron Co., Roanoke, Va.; C. E. Hillyer, Gen. Contr., Jacksonville. (Lately noted.)

S. C., Camden—Geo. T. Little will erect hotel on DeKalb St.; 3 stories; 25 rooms; Brown-Harry Co., Contr., Gastonia, N. C.

S. C., Columbia—Ashley C. Tobias and others, Trustees for J. L. Minnaugh Estate, will expend \$15,000 to \$20,000 to improve Imperial Hotel; construct front, remove balconies extending over Main St., construct metal roof, remodel interior, plumbing, etc. J. F. Dobbs, Contr. Address LaFaye & LaFaye, Archts. (Lately noted.)

Tex., Tyler—Tyler Hotel Co., E. P. McKenna, Chrmn., will erect 5-story hotel; 100x125 ft.; 105 sleeping rooms; fireproof; reinforced concrete and brick veneer; concrete floors; cost \$250,000; C. D. Hill & Co., Archts., Sumpter Bldg.; Kidd-Scruggs Co., Contrs., both Dallas. (Lately noted.)

Miscellaneous.

Ga., Griffin—Home Grand Lodge of Georgia, I. O. O. F., will erect Robert Memorial Home;

40x70 ft.; 3 stories; brick, cement and limestone; metal tile roof; wood floors; steam heat; plans and construction by Newton Coal & Lumber Co. who may be addressed. (Lately noted.)

N. C., Ashboro—Fair—Randolph County Fair Assn. will erect exhibit building; 30x150 ft.; also 30 to 40 stalls for cattle; J. D. Underwood Contr. Address W. C. York, Secy.

Railway Stations, Sheds, Etc.

Tex., Ranger—Texas & Pacific Ry., E. F. Mitchell, Ch. Engr., Dallas, will erect passenger depot; 42x200 ft.; brick; cost \$65,000; Henger & Chambers Co., Contr., Dallas. (Lately noted.)

Schools.

Ark., Batesville—Arkansas College, Dr. W. L. Lacey, Prest., will erect \$80,000 dormitory; 2 stories; accommodate 100 students; fireproof; brick; stone trim; tile roof; U shape with archway of 7 arches connecting 2 wings and main building; Lombard—Romanesque type; Jno. P. Almand, Archt., Little Rock; J. D. Johnson, Hot Springs, contr. for superstructure; J. N. McCord, Batesville, contr. for stone foundation.

D. C., Washington—Howard University will erect \$185,559 building for home economics and dining hall; 3 stories; L shape; 130.6x57 ft.; wing 48.2x43.8 ft.; steel skeleton; pressed steel fireproofing; exterior of brick; terra cotta trim; asbestos shingle and slag and gravel roof; concrete and hardwood floors; wire glass; steel sash and trim; ventilators; Webster vacuum system of heat, using exhaust steam from central power plant, \$7500; wiring, \$2350; plans by Wm. A. Hazel and Albert I. Cassell, Dept. of Architecture, Howard University. Address Consolidated Engineering Co., Contr., Calvert Bldg., Baltimore. (Lately noted.)

Fla., Tampa—County Board of Public Instruction, J. E. Knight, Secy., will erect 3-story brick wing and 21-ft. brick extension to auditorium of George Washington Junior High School, Michigan and Mitchell Aves.; B. C. Bonfoey, Archt.; Mudge Construction Co., contr. at \$31,900. (Lately noted.)

Md., Fork—Baltimore County Board of Education, Clarence G. Cooper, Supt., Towson, will erect school; Geo. B. Monmonier, 1711 McCulloh St., Baltimore, contr. at \$17,330. (Previously noted.)

Miss., Friar Point—Board of Education will erect high school; brick; stone trim; 10 classrooms; cost \$50,000; J. Walter Jones, Contr., Memphis, Tenn.

Mo., Hume—Hume Consolidated School Dist. will erect \$22,000 school; 45x74 ft.; 2 stories; brick and tile; built-up roof; wood and cement floors; hot water heat; electric lights; J. H. Felt & Co., Archts., Grand Avenue Temple, Kansas City; A. G. Gibson, Contr., Shubert, Mo. (Lately noted.)

Mo., Kansas City—Board of Education, J. B. Jackson, Secy., Public Library Bldg., will erect Woodland School; 2 stories and basement; 19 class rooms in main building with auditorium, gymnasium, swimming pool and wing for normal training school of 9 rooms; C. A. Smith, Archt., Finance Bldg.; Collins Bros., Contrs., Rialto Bldg.; U. S. Engineering Co., 914 Campbell St., heating; Arthur McKinley, 1012 Troost Ave., plumbing; Hutton Electric Co., 210 Admiral St., wiring. (Lately noted.)

Mo., Versailles—Board of Education, Samuel Daniels, Secy., will erect school; 2 stories; 56x70 ft.; cost \$31,000; F. B. Miller, Archt., Jefferson City; Shore & Kidwell, Contrs., Versailles.

N. C., Asheville—Asheville Normal & Associated Schools will erect building; 4 stories; 168x99½ ft.; fireproof; rough tapestry brick; stucco columns; cost \$170,000; W. H. Lord, Archt., Asheville; Southern Ferro Concrete Co., Contr., Atlanta, Ga.

N. C., Banners Elk—County Board of Education will erect \$20,000 high school; 4 class rooms, music room and library; brick; asphalt shingle roof; hardwood floors; steam heat; A. L. Barbour, Contr. (Lately noted.)

Tenn., Cleveland—County Board of Education will erect 6 rural schools; three 6-room and three 4-room buildings; 1 story; brick veneer and frame; asphalt shingle roofs; wood floors; rolling partitions; wire glass; stoves; total cost \$50,000; Manley & Jones, Archts., Knoxville; Grover C. Lee, Contr., Cleveland. (Lately noted in part.)

Tex., Rockdale—City School Board will erect high school; 3 stories; brick and tile; C. H. Page & Bro., Archts., Austin; Wattinger Bros., Contrs., Austin; Jno. L. Martin, Austin, plumbing and wiring; Tension Bros., Dallas, heating; all bids for negro school rejected. (Lately noted.)

Va., Big Stone Gap—School Board will erect \$45,000 building lately noted; 60x70 ft.; 3 stories; gray sand stone walls; concrete foundation; asbestos shingle roof; hardwood and concrete floors; ventilators; heating and plumbing, \$6000; lighting, \$1000; R. B. McGeekin, Archt., Big Stone Gap; Chas. J. Kingsolver, Contr., Bristol. (See Machinery Wanted—Blackboards; Roofing.)

Va., Hampton—School Board, J. H. Brent, Supt., will erect high school; 2 stories and basement; 140x130 ft.; cost \$97,634; Chas. M. Robinson, Archt., Times Dispatch Bldg., Richmond; J. W. David, Contr., Newport News. (Lately noted.)

W. Va., Shinnston—Board of Education, Walter Hursey, Prest., will erect annex to graded school on Main St.; 6 rooms, gymnasium, 45x75 ft. with bleacher seating capacity of 500, boiler and 2 locker rooms; brick; cost \$50,000; Shinnston Planing Mill Co., Contr.

Stores.

Ala., Jacksonville—J. W. Lusk has contract to erect buildings for R. P. Ferguson, C. A. Whitmore and E. H. Posey; 30x85 ft.; 22x70 ft. and 30x70 ft.; 1 story; brick and hollow fireproof tile; tar and gravel roof; metal ceilings; steel sash and trim; ventilators; electric lights; total cost \$12,000. (Lately noted.)

Ga., Savannah—Jerry George will erect 2-story brick and tile building on Broughton St. between Drayton and Bull Sts.; T. S. Sweet, Archt.; Olaf Otto, Contr.

Ga., Savannah—Lamas Bros. will erect 2-story building; brick and tile; T. S. Sweet, Archt.; Olaf Otto, Contr.

Ky., Himmlerville—Martin Himmler will erect store and office building, boarding house and miners' cottage; brick; electric lights; hot air heat; cost \$127,500; J. J. West, Contr., 611 9th St., Huntington, W. Va.

La., Baton Rouge—T. N. Nolan will erect 2-story brick building on N. Boulevard; 64x80 ft.; brick; plate glass front; Turnbold & Hamilton, Contrs.

N. C., Raleigh—O. R. Brown will erect \$15,000 building on Hillsboro St.; Hester & McElwee, Contr.

N. C., Raleigh—Parker & Hunter will erect \$12,000 building on S. Salisbury St.; Hester & McElwee, Contr.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Aluminum Stock Pots.—Marine Corps, Quartermasters Dept., Washington, D. C.—Bids until Oct. 14 to furnish 50 aluminum stock pots, 15 gal.; delivery Depot Quartermaster, 26th and Moore Sts., Philadelphia, Pa.

Art Glass.—O. W. Aderholdt, Stateville, N. C.—Art glass windows for church.

Belting.—G. C. Bech, New Smyrna, Fla.—Quantity of 8-in. 4-ply rubber belting for saw mill.

Bender (Pipe).—Joseph Stolz & Son, Commerce Ave., Highbridge Station, New York City.—Hand power pipe bender, complete with set of forms bending 1, 1 1/4, 1 1/2 and 2-in. pipe cold; data and prices.

Blackboard.—Chas. J. Kingsolver, Bristol, Va.—Prices on 928 sq. ft. No. 1 slate blackboard.

Bleaching and Dyeing Machinery.—Andrew T. Armstrong, 523 Equitable Bldg., Baltimore, Md.—Bleaching and dyeing mch.

Boiler.—M. W. Cartwright, Florence, S. C.—Boiler for creamery.

Boilers.—G. C. Bech, New Smyrna, Fla.—Boilers for saw mill, daily capacity 15,000 ft. lumber and 25,000 laths.

Boiler Plant.—Hugh E. Weightman, 3429 Parker Ave., Chicago, Ill.—Boiler plant about 3000 boiler H. P. comprised of B & W, Edgemoore or Heine boilers capable of being re-instated for not less than 180 lbs. having superheaters for 75 to 100 degrees certain superheat, consider boilers arranged for superheat connections, with or without trimmings, all offers give list of fittings and trimmings included; boiler wanted in battery of two preferred; consider single set of three in battery; chain grate stokers of reliable make are desired, all fronts to be adapted to take chain grates of suitable type; state condition, detailed information, etc.

Brick.—J. S. Kelly, Harlan, Ky.—See Building Material.

Brick (Face and Common).—Southern Steel & Cement Co., 10 N. Pack Square, Asheville, N. C.—To correspond with face and common brick mfrs.

Brick.—Henry J. Veith, 840 Baronne St., New Orleans La.—See Building Material.

Bridge Construction.—City, A. P. Kastler, Clk., Valparaiso, Fla.—Bids until Oct. 18 to erect 734-ft. pile bent timber bridge; plans, etc., on file.

Bridge Construction.—State Engr., Ernest S. Alderman, Oklahoma City, Okla.—Bids until Nov. 15 to build K. O. & G. bridge over Arkansas river in Muskogee County; six 210-ft. steel trusses, etc.; Federal Aid Project No. 51, Section B; plans, etc., on file at Oklahoma City, and with County Clk., Muskogee, Okla.

Bridge Construction.—State Engr., Ernest S. Alderman, Oklahoma City, Okla.—Bids until Nov. 15 to build K. O. & G. bridge over Arkansas river in Muskogee County; four 200-ft. and 90-ft. steel trusses; etc.; Federal Aid Project No. 51, Section A; plans, etc., on file at Oklahoma City, and with County Clk., Muskogee, Okla.

Bridge Construction.—State Engr., Ernest S. Alderman, Oklahoma City, Okla.—Bids until Nov. 15 to build Whitefield bridge over South Canadian river between Muskogee and Haskell counties; four 210-ft. steel trusses; etc.; Federal Aid Project No. 51, Section C; plans, etc., on file at Oklahoma City.

Butter Machinery.—Lokey Ice Cream Co., C. K. Crossfield, Prest.-Mgr., Box 421, Gadsden, Ala.—Machinery to make 1,000 lbs. butter daily.

Building Material.—J. S. Kelly, Harlan, Ky.—Building material for \$70,000 hotel to include brick, cement, lime, steel beams and nails.

Building Material.—Henry J. Veith, 840 Baronne St., New Orleans, La.—Building material, including face brick, common brick, sand, cement, cement plaster, lumber, metal lath and roof tile, for \$100,000 church—2 stories.

Building Material.—M. A. Long Co., 1523 Munsey Bldg., Baltimore, Md.—Sub bids and estimates until Oct. 14 for erection of dormitory for John Hopkins University.

Building Material.—A. E. Goldfinch, Secy., Treas., Peoples Building & Loan Assn., Conway, S. C.—Correspondence with farms supplying general building materials.

Buildings Material.—M. A. Long Co., 1523 Munsey Bldg., Baltimore, Md.—Sub bids and estimates until Oct. 20 for erection of high school No. 176, Washington, D. C.

Building Tile.—Southern Steel & Cement Co., 10 N. Pack Square, Asheville, N. C.—To correspond with building tile mfrs.

Candy Machinery.—J. F. Moore, Lancaster, S. C.—Names and addresses of mfrs. candy machinery.

Canneries.—Academy Shops Mfg. Co., Troutman, N. C.—Names and addresses small canning companies in Southern States.

Cans (Seamless).—George Weaver, Supt., Carbox Co., N. Scott and St. Louis Sts., New Orleans, La.—Names and addresses mfrs. of 1/2 and 8 oz. seamless cans, both lithographed and plain.

Cars (Dump).—J. G. Skelton, Ry. & Power Bldg., Richmond, Va.—Six to twelve Western 16yd. air dump cars.

Cars (Flat).—Boyle—Robertson Construction Co., Evans Bldg., Washington, D. C.—2 or 3 flat cars without sides, 36-in. gauge; second-hand in good condition; to be used at Williamston, N. C.

Cars (Side Dump).—North Carolina Granite Corp., Mt. Airy, N. C.—2 to 6 side dump cars, 12 to 20 yds. capacity, standard gauge, steel sides preferred, either to be dumped by compressed air or by hand.

Carouselles, etc.—S. E. D. 'S. Seneviratne, Esq., Daisy Villa'—Waluaka—Katukelle, Kandy, Ceylon.—Prices and catalogs on different makes of merry-go-rounds, carouselles, etc.; also names and addresses mfrs. of new amusement of same line.

Cement.—J. S. Kelly, Harlan, Ky.—See Building Material.

Cement.—Henry J. Veith, 840 Baronne St., New Orleans La.—See Building Material.

Concrete Mixer.—Grover C. Lee, Cleveland, Tenn.—Concrete mixer.

Crane.—Hugh E. Weightman, 3429 Parker Ave., Chicago, Ill.—5 to 10-ton crane with 230 volt 3 phase 60 cycle equipment, prefer operator's cab on side, span 70 to 75 ft.; will consider other spans if crane can be altered; state condition, etc.

Creamery Machinery.—M. W. Cartwright, Florence, S. C.—Creamery mch.

Crushing (Stone) Outfit.—J. M. Torrence, Bessemer City, N. C.—New or second-hand stone crushing outfit, 75 to 150 tons daily capacity.

Derrick.—D. C. Elphinstone, 408 Continental Bldg., Baltimore, Md.—Steel stiff leg derrick, 100 ft. boom, 3 drum hoisting engine with swinger and boiler to operate 5 yd. double line clam shell, for use in Ohio; second-hand preferred, if in good condition.

Dies, etc.—Ben Lowe, 24 W. Monroe St., Jacksonville, Fla.—Names and addresses of

die makers, want die especially of punch embroidery needle.

Drainage.—Jefferson County Commrs. of Drainage Dist. No. 6, Beaumont, Tex.—Bids until Nov. 15 to complete construction of \$1,000,000 drainage project in Jefferson County; C. L. Sherer, Engr.

Drainage.—Gentry County Drainage Dist., E. C. Lockwood, Secy., Albany, Mo.—Bids until Oct. 13 to construct main ditch and laterals; Clark E. Jacoby Engineering Co., Shukert Bldg., Kansas City, Mo.

Dry Cleaning Machinery.—Gadsden French Dry Cleaning Co., Gadsden, Ala.—Invites bids on mch. for dry cleaning plant.

Electrical Apparatus, etc.—Norfolk & Western Ry. Co., J. H. Clemitt, Purchasing Agt., Roanoke, Va.—Bids until Oct. 19 for 2500 prs. angle bars; 400 steel spring plates; parts for electrical apparatus; 100,000 lbs. welding and threading steel; 4300 lbs. spring steel; 5000 copper signal rail bonds; 500 lbs. flux rods; information on application.

Electrical Equipment.—Hugh E. Weightman, 3429 Parker Ave., Chicago, Ill.—One 300 KW 375 KVA, 500 KW 625 KVA, 600 KW 750 KVA, 1000 KW 1250 KVA turbo-generator, 3 phase, 60 cycle, 2300 volts, 3600 rpm. preferred, steam 150 lbs. 75 degrees super heat condensing to 28-in. vacuum, referred to 30-in. barometer, with or without surface condenser and auxiliaries; 500 KW 600 volt D. C. from 3 or 6 phase 380 volt A. C. rotary converter, with or without transformers, transformers for 2300/380 volts air cooled oil insulated are desired; exciter of any capacity from 25 to 100 KW 125 volts D. C. arranged with couble shaft extension and direct connected to non-condensing steam turbine using steam at 150 lbs. other end of generator to be coupled to an induction motor, slip ring or squirrel cage type for 3 phase 60 cycle 230 or 2300 volts; state condition, detailed information, etc.

Electric Plant.—City, J. F. Ewell, Mgr., Duncan, Okla.—Bids opened to improve electric light plant; Benham & Mullergren, Const. Engrs., Kansas City, Mo.

Electric Supplies.—W. H. Anderson, Kosse, Tex.—Data and information on electric supplies, including porcelain insulators.

Elevator.—Loui Hart, Gadsden, Ala.—Elevator for 4-story hotel and club building.

Engines.—City, M. B. Hutcherson, Mayor, Rockymount, Va.—Bids about Oct. 20 for engines for water-works.

Engines.—G. C. Bech, New Smyrna, Fla.—Engines for saw mill, daily capacity 15,000 ft. lumber, 25,000 laths.

Engine.—Hackley Morrison Co., Old Dominion Trust Bldg., Richmond, Va.—20x24 or 20x28 twin cylinder throttling slide valve engine or equivalent.

Engine.—Chas. H. Hall, New Bern, N. C.—Second-hand 12x16-in. center crank steam engine.

Engines.—Williams Machinery Co., Box 356, Texarkana, Ark.—Prices on gasoline engines.

Farming Machinery.—Williams Machinery Co., Box 356, Texarkana, Ark.—Prices on all kinds farming mch.

Fiber Board.—Allen-Morrison Sign Co., Inc., Box 414, Lynchburg, Va.—Names and addresses mfrs. in either Mississippi or Louisiana who mfr. fiber board from pulp of cane.

Mayor, Cordell, Okla.—Standard Filter Mayor, Cordell, Okla.—Standard Filter equipment.

Fire Protection System.—Treasury Dept., Supvgs. Archt.'s Office, Washington, D. C.—Bids until Oct. 17 to extend fire protection system at U. S. Public Health Service Hospital No. 2 (Broadview) Chicago, Ill.; information on application.

Floor (Mastic).—Treasury Dept., Jas. A. Wetmore, Acting Suprv. Archt., Washington, D. C.—Bids until Oct. 21 for mastic floor and base at U. S. Public Health Service Hospital, Alexandria, La.; specifications from office of Supt. of Construction at hospital or office of Suprv. Archt.

Flywheel.—Coleman-Shoemaker, Inc., Commercial Trust Bldg., Philadelphia, Pa.—Second-hand Corliss engine flywheel about 16-ft. diam. with face from 40 to 55-in. and hub bore of 18-in. or more.

Furniture.—O. W. Aderholdt, Statesville N. C.—Altar furniture.

Gang Saw, etc.—G. C. Bech, New Smyrna, Fla.—Gang saw mill and other mchy. for saw mill, daily capacity 15,000 ft. lumber and 25,000 laths.

Gas Plant.—Geo. D. Waller, 413 Independent Life Bldg., Nashville, Tenn.—Gas plant for \$60,000 high school.

Grading.—G. W. Paschal, Wake Forest, N. C.—Invites bids on grading athletic field at Wake Forest College, size 400x450-ft.; 26,000 cu. yds. earth removal; has plans.

Grading.—Jefferson County Board of Revenue, Birmingham, Ala.—Bids until Oct. 25 to grade road from Leeds to Vincent; 2 mi.; plans, etc., with C. J. Rogers, County Highway Engr.

Grandstand.—E. Fulghum, Mgr., Jackson Athletic Assn., Jackson, Tenn.—Correspondence with builders of grandstands for base ball park; seating capacity, 4,000.

Gravel.—City, Carl Copeland, Mayor, Cordel, Okla.—Gravel in car load lots, shipped to Dill, Okla., in Orient R. R.

Grist Mills.—Williams Machinery Co., Box 356, Texarkana, Ark.—Prices on grist mills.

Gummer (Saw).—Sam'l T. Williams, 223 N. Calvert St., Baltimore, Md.—Saw gummer.

Hay Presses.—Williams Machinery Co., Box 356, Texarkana, Ark.—Prices on hay presses.

Heating Plant.—Wm. M. Myers, Director of Public Safety, City Hall, Richmond, Va.—Bids until Oct. 21 to install heating system in fire engine house; plans and specifications from office of Buildings Inspector, City Hall; Carneal & Johnston, Archts., Chamber of Commerce Bldg., Richmond.

Heaters.—Loui Hart, Gadsden, Ala.—Heaters for 4-story hotel and club building; 100 rooms.

Heating Apparatus, etc.—Board of Awards, Wm. H. Broening, Prest., Baltimore, Md.—Bids until Oct. 12 for heating apparatus and piping for buildings of male and female insane, Bay View Hospital; Richard Gwinn, Register, City Hall; H. G. Perring, Chief Engr.

Heating Plant.—J. S. Shannon, 619 First Natl. Bank Bldg., Birmingham, Ala.—Heating plant for 2-story hotel and store building; 50x140 ft.

Heating Plant.—O. W. Aderholdt, Statesville, N. C.—Heating plant for church, 80x63 ft.

Hoist (Chain).—Hugh E. Weightman, 3429 Parker Ave., Chicago, Ill.—20-ton hand chain hoist with geared trolley for use on 24-in. beam; state condition, etc.

Hydrated Lime.—Southern Steel & Cement Co., 10 N. Pack Square, Asheville, N. C.—To correspond with hydrated lime mfrs.

Ice Plant.—Chas. W. Francis, Mgr., Earlington Ice Co., Earlington, Ky.—Bids until

Oct. 16 to 15 on one 40-ton or two 20-ton, raw water, electric, ice making mchy.

Jointer.—Union Foundry Co., Anniston, Ala.—Belt driven jointer, 12 to 20-in. blade, good condition.

Kaolin or Glass Plants.—W. H. Anderson, Kosse, Tex.—Correspond with parties interested in kaolin or glass plants.

Key-Seating Machine.—Tom Huston Mfg. Co., Columbus, Ga.—Plain key-seating machine for outside work, with shafts for keys up to 3/4-in.; also Baker machine or its equivalent for inside key-seating up to 3/4-in.

Knitter (Power).—W. E. Edgeworth, Ruby, S. C.—Names and addresses mfrs. of small power knitter.

Lathe.—Tom Huston Mfg. Co., Columbus, Ga.—Second-hand 30-in lathe with about 10-ft. bed, large face plate, extra compound rest, 4 jaw chuck, prefer lathe with brass bearings in head stock.

Laundry.—Mrs. J. F. Fitch, Buchanan, Va.—Data and prices on establishing wet wash laundry.

Lighting Fixtures.—Treasury Dept., Supv. Archt.'s Office, Washington, D. C.—Bids until Oct. 26 to furnish and install lighting fixtures in U. S. Public Health Service Sanatorium at Dawson Springs, Ky.

Lighting Fixtures.—O. W. Aderholdt, Statesville N. C.—Lighting fixtures for church, 98x63 ft.

Lumber.—See Sawmill Outfit, etc.

Lumber, Etc.—City, A. P. Kastler, Clk., Valparaiso, Fla.—Bids until Oct. 18 to furnish piling, lumber, hardware, paint, etc.; plans, etc., on file.

Lime.—J. S. Kelly, Harlan, Ky.—See Building Material.

Locomotives.—J. G. Skelton, Ry. & Power Bldg., Richmond, Va.—Two 11x16-in. Vulcan 36-in. gauge locomotives; also two 30 ton standard gauge saddle tank locomotives.

Lumber.—Joseph Forshaw, 111 N. 12th St., St. Louis, Mo.—Prices on 100,000 ft. No. 2 yellow pine lumber.

Metal Lath.—Henry J. Velth, 840 Baronne St., New Orleans, La.—See Building Material.

Millwork.—J. S. Kelly, Harlan, Ky.—Windows for \$70,000 hotel; 4 stories; 40x102 ft.

Mill Working Machinery.—Chas. H. Hall, New Bern, S. C.—Second-hand mill working mchy. including band resaw 44 to 48-in. wheels, also filing room equipment for same; self feed rip saw, Williamsport style; 30 to 36-in. automatic cup wheel knife grinder; 6 or 8-in. outside moulder; state prices and full description.

Motor Generator Set.—Coleman-Shoemaker, Inc., Commercial Trust Bldg., Philadelphia, Pa.—Motor generator set 300 to 500 K. W. 250 volt, D. C. driven by 3 phase, 60 cycle, 2300 volt motor; rotary converter would answer purpose.

Moulds.—See Pottery Plant Supplies.

Nails.—J. S. Kelly, Harlan, Ky.—See Building Material.

Needle (Punch Embroidery).—See Dies, etc.

Office Supplies, etc.—Marshall Office Supply Co., 107 1/2 W. Austin St., Marshall, Tex.—To correspond with mfrs., distributors and jobbers of office supplies, equipment and specialties for dealers proposition and quotation.

Oil Drilling Outfit.—R. T. Lipscombe, 509 Boush St., Norfolk, Va.—Oil drilling outfit capable of drilling 4000 ft., state date of delivery, price, etc.

Paraffine Paper Cap Machinery.—American Supply Co., 401 Cotton Exchange, Houston,

Tex.—Names and addresses mfrs. of mchy. to make paraffine paper caps for milk bottles.

Paving.—City of Clinton, Okla.—Will invite bids on paving 50 blocks; Benham & Mullergren, Consult. Engrs., Kansas City, Mo.

Paving.—City of Hartsville, S. C.—Bids within 60 days to pave streets; \$200,000; Lee, Pennell & Murray, Engrs., Sumter, S. C.

Paving.—City, Mat Miser, Commr. Streets and Sewers, Huntington, W. Va.—Bids until Oct. 13 to grade, curb and pave 14th St. between 10th and Charleston Aves.; plans, etc., on file and with A. B. Maupin, City Engr.

Paving.—City of Darlington, S. C.—Bids within 60 days to pave streets; \$150,000; Lee, Pennell & Murray, Engrs., Sumter, S. C.

Paving.—City, F. E. Ross, Engr., Jefferson City, Mo.—Bids until Oct. 14 to pave McCarty St. between intersection of McCarty St. and Locust St.; 1,912 sq. yds. reconstructed base course; 1,912 sq. yds. bituminous macadam surface course.

Peanut Oil Mill.—Chamber of Commerce, J. K. Smith, Secy., De Ridder, La.—Peanut oil mill for 3,000-acre crop of Spanish peanuts.

Percolators.—Halo Co., E. M. Lowman, Secy., Columbia, S. C.—Percolators for syrup plant.

Pipe (Iron).—Blue Ridge Lumber Co., Lynchburg, Va.—2700 ft. of 3/4-in. and 2000 ft. of 1-in. galvanized iron pipe complete with couplings; quote lowest delivered prices.

Pipe Organ.—O. W. Aderholdt, Statesville, N. C.—Pipe organ for church.

Refrigerating Plant.—M. W. Cartwright, Florence, S. C.—Refrigerating plant for creamery.

Plate Glass.—J. S. Shannon, 619 First Natl. Bank Bldg., Birmingham, Ala.—Plate glass for store front; building; 50x140 ft.

Plumbing System.—Dist. Engr. Office, Mississippi River, Dredging Dist., 1017, Memphis, Tenn.—Bids until Oct. 19 to furnish and install plumbing system in warehouse building at U. S. dredge depot; information on application.

Pottery Plant Machinery.—W. H. Anderson, Kosse, Tex.—Names and addresses mfrs. of pottery plant machinery.

Pottery Plant Supplies.—W. H. Anderson, Kosse, Tex.—Correspond with mfrs. of pottery plant supplies, including moulds.

Pump (Centrifugal).—Hugh E. Weightman, 3429 Parker Ave., Chicago, Ill.—Centrifugal pump 250 GPM, 10 ft. lift, 50 lbs. per sq. in. pressure direct connected to 3 phase 60 cycle 230 volt or 2300 volt motor with starting equipment; bronze fitted pump for water pumping; to pump clear cold water; state condition, etc.

Pumps.—City, M. B. Hutcherson, Mayor, Rockymount, Va.—Bids about Oct. 20 for pumps for water-works.

Pumps.—Halo Co., E. M. Lowman, Secy., Columbia, S. C.—Pumps for syrup plant.

Punch.—G. R. Mueller Co., 1014 Brown-Marx Bldg., Birmingham, Ala.—Second-hand punch, capacity 1-in. hole through 1-in. plate or heavier with 36-in. throat; state make, full specifications, age, condition, location, and best resale price.

Refrigeration Equipment.—Hugh E. Weightman, 3429 Parker Ave., Chicago, Ill.—10 to 12 ton belt driven ammonia refrigeration equipment used for water cooling system for drinking purposes; complete or parts, with or without motor equipment for 3 phase 60 cycle 230 or 2300 volts; state condition, etc.

Revetment.—U. S. Engrs. Office, Jackson-

ville, Fla.—Bids until Oct. 15 for revetment construction at St. Johns Bluff, St. Johns River.

Road Construction.—Sumter County Comms., Sumter, S. C.—Bids within 60 days to construct hard-surfaced roads; \$500,000; Lee, Pennell & Murray, Engrs., Sumter, S. C.

Road Construction.—North Carolina State Highway Comsn., Raleigh, N. C.—Bids until Oct. 20 to construct 4.30 mi. State highway in Hyde County; State Project 564; 11,350 cu. yds. top-soil or sandclay surfacing; plans from Dist. Engr., Tarboro, N. C., and on file at Raleigh, N. C.

Road Construction.—Cherokee County Highway Comsn., W. C. Hamrick, Chrmn., Gaffney, S. C.—Bids until Oct. 18 to construct 7 mi. top-soil road from Gaffney to Goucher cross roads; plans, etc., available after Oct. 14.

Road Construction.—North Carolina State Highway Comsn., Raleigh, N. C.—Bids until Oct. 20 to construct 5.67 State highway in Halifax County; State Project 601; 59,930 sq. yds. penetration macadam; etc.; plans from Dist. Engr., Tarboro, N. C., and on file at Raleigh, N. C.

Road Construction.—North Carolina State Highway Comsn., Raleigh, N. C.—Bids until Oct. 20 to construct 6.91 mi. State highway in Tyrrell County; State Project 558; 16,220 cu. yds. top-soil or sand-clay surfacing; 35,600 cu. yds. drainage ditches; etc.; plans from Dist. Engr., Tarboro, N. C., and on file at Raleigh, N. C.

Road Construction.—North Carolina State Highway Comsn., Raleigh, N. C.—Bids until Oct. 20 to construct 11.22 mi. State highway in Nash County; State Project 513; 29,400 cu. yds. top-soil or sand-clay surfacing; plans from Dist. Engr., Tarboro, N. C., and on file at Raleigh, N. C.

Road Construction.—North Carolina State Highway Comsn., Raleigh, N. C.—Bids until Oct. 20 to construct 9.83 mi. State highway in Nash-Franklin-Wake counties; State Project 515; 25,900 cu. yds. top-soil or sand-clay surfacing; etc.; plans from Dist. Engr., Tarboro, N. C., and on file at Raleigh.

Road Construction.—Anderson County Highway Comsn., Anderson, S. C.—Bids until Oct. 18 to construct 8.861 mi. Alford's bridge road and 3.857 mi. Anderson-Greenville road; 40,134 cu. yds. top-soil surfacing; plans, etc., with W. A. Sanders, County Engr., Anderson, and State Highway Engr., Columbia, S. C.

Road Construction.—Albemarle County Supvrs., Charlottesville, Va.—Bids until Oct. 17 to construct Jarman's Gap road between State highway route No. 9 at Crozet and Miller Dist. line; specifications on file with County Clk., Charlottesville, and State Highway Commr., 116 S. Third St., Richmond, Va.

Road Construction.—Jefferson County Board of Revenue, Birmingham, Ala.—Bids until Oct. 25 to repair and resurface West highway beginning at Helena Station and going through Ensley and Fairfield; plans, etc., on file with C. J. Rogers, County Highway Engr.

Road Construction.—Richland County Permanent Roads Comsn., 31 Arcade Bldg., Columbia, S. C.—Alternate bids for construction of Columbia-Charlotte highway; Section A or B of Koon road; also Section A or B of Winnsboro road; bids until Oct. 20; plans, etc., on file.

Road Construction.—Scott County Supvrs., Gate City, Va.—Bids to grade and drain Opossum Creek road between Kermit and Tennessee state line; 6.3 mi.; bids opened Oct. 10; specifications with County Clk., Gate City, and State Highway Commr., 116 S. Third St., Richmond, Va.

Roller Bearing Machinery.—E. C. Sasser, Gen. Mgr., Universal Roller Bearing Corp., 253 Arcade Bldg., Norfolk, Va.—To correspond with mfrs. of or dealers in mchy. to make roller bearings.

Roofing.—Chas. J. Kingsolver, Bristol, Va.—Prices on 40 squares of asbestos shingles; 8x16 or 10x16 ft.

Sand.—City, Carl Copeland, Mayor, Cordell, Okla.—Sand in car load lots shipped to Dill, Okla., on Orient R. R.

Saw.—Grover C. Lee, Cleveland, Tenn.—Woodworking combination saw.

Sawmill Outfit, etc.—Box 581, Mobile, Ala.—Saw mill outfit complete, also from 50 to 100,000,000 ft. pine, mostly long leaf; state location, price, etc.

Saw Mill Supplies.—Williams Machinery Co., Box 356, Texarkana, Ark.—Prices on saw mill supplies.

School Equipment (Domestic Science).—Geo. D. Waller, 413 Independent Life Bldg., Nashville, Tenn.—Domestic science equipment for \$60,000 high school.

Sewers.—City, Board of Commrs., D. B. Robertson, Prest., Tuscaloosa, Ala.—Bids until Oct. 18 to construct storm water sewers (Ordinance No. 423); 1,680 lin. ft. 30 to 42-in. brick or concrete sewer; 3,236 lin. ft. 12 to 24-in. terra cotta sewer; 15 manholes; 45 drainage inlets; plans, etc., from City Clk., or W. H. Nicol, City Engr.

Sewers.—City of Little Rock Ark.—Bids opened to install 2,100 lin. ft. 12-in. storm sewers; 8 catch basins; plans, etc., from Dickinson & Watkins, 610 Boyle Bldg.

Sewers.—City, Greenwood, Miss.—Bids until Oct. 18 to construct storm sewers and install pumps; 2000 lin. ft. 27-in. vitrified sewer, 4 to 6-in. cut; 3 manholes; 4 inlets; 300 lin. ft. 36-in. vitrified pipe sewer; 36-in. centrifugal pump with 300-H. P. electric motor, direct connected complete with vacuum priming pump and motor; 40 and 20-H. P. electric motors; plans, etc., from F. T. Walker, City Engr.

Sewers.—City, J. H. Schoepf, City Pur. Agt., Asheville, N. C.—Bids opened to construct sewers from Hominy Creek to Horney Heights; plans, etc., on file.

Sewers.—City, E. M. Fry, Mgr., McAlester, Okla.—Bids opened last of Oct. to construct outfall sewers and sewage disposal plants; install Imhoff tanks and sprinkling system; Benham & Mullergren, Consult. Engrs., Kansas City, Mo.

Sheet Piling.—C. W. Cooper, Box 146, Tupelo, Miss.—100 pieces 7-in. Lackawanna sheet piling lengths from 12 to 14 ft.

Steel Beams.—J. S. Kelly, Harlan, Ky.—See Building Material.

Store Fronts.—A. E. Goldfinch, Secy.-Treas., Peoples Building & Loan Assn., Conway, S. C.—Correspondence with firms to install store fronts for furniture and dry goods stores.

Structural Steel.—H. & A. Wood Products Co., St. Petersburg, Fla.—Names and addresses mfrs. of structural steel buildings.

Syrup Machinery.—Halo Co., E. M. Lowman, Secy., Columbia, S. C.—Simple syrup machinery.

Tanks.—Alex. M. Robinson, Georgetown, Ky.—Dealers prices on new and used vertical steel tanks about 10,000 gal. capacity, for oil storage.

Theater Plans.—A. P. Gould, North Wilkesboro, N. C.—Information regarding outside front, arrangement of stage, etc. of moving picture theaters.

Tile.—Henry J. Veith, 840 Baronne St., New Orleans, La.—See Building Material.

Wagon (Sanitary).—Edwards-Carstarphen

Co., Yoakum, Tex.—Names and addresses mfrs. of sanitary wagon for use of city.

Water-Works.—City, A. P. Kastler, Clk., Valparaiso, Fla.—Bids until Oct. 18 to install water-works; 12,000 ft. 4 to 8-in. cast iron pipe; 30,000 gal. tank on 100-ft. tower; internal combustion motor, belt connected to centrifugal or rotary pump, 150 to 250 G. P. M. capacity; 10 fire hydrants and necessary pipe specials; plans, etc., on file.

Water-Works.—City, J. F. Ewell, Mgr., Duncan, Okla.—Bids opened to improve water-works; Benham & Mullergren, Consult. Engrs., Kansas City, Mo.

Woodworking Machine.—J. D. Pitts, Glen Alpine, N. C.—Second-hand wood working combination machine, weight about 6000 lbs.; good condition; immediate delivery.

Financial News

New Financial Corporations.

Ala., Mobile—Home Mutual Building & Loan Assn., capital \$250,000, organized with Stewart Brooks, Prest.; C. C. Lowder, Secy.-Mgr.

Ky., Nicholasville—Farmers Exchange Bank, capital \$100,000 incptd., by John H. Welsh, J. C. Robb.

Ky., Okolona—Okolona State Bank, capital \$15,000 organized with H. K. Skiles, Prest.

La., Eunice—Southern Banking Co., capital \$30,000 incptd., with O. L. Branson, Prest.; M. M. Milburn, Cashr.

Md., Baltimore—City Union Building & Loan Assn., Equitable Bldg., capital \$50,000 incptd., by Wm. B. Jacobson, A. Wm. Cohen.

Md., Baltimore—Mankin Building Assn. of Baltimore City, 15 E. Saratoga St., capital \$100,000 incptd., by Elias W. Frost, F. Howard Smith.

Md., Brooklyn—Annapolis Boulevard Building & Loan Assn., Brooklyn-Curtis Bay Bank Bldg., capital \$1,300,000 incptd., by Wm. N. Crisp, John E. Potee and others.

Md., Emmitsburg—Farmers State Bank, capital \$50,000, organized with B. F. Ogle, Prest.; A. A. Horner, Cashr. (Previously noted.)

Miss., Rosedale—Rosedale National Bank will organize with \$85,000 capital.

Okla., Atoka—Atoka Building & Loan Assn., capital \$100,000, organized with T. F. Memminger, Prest.; Kelly Fain, Secy. (Previously noted.)

S. C., Charleston—Edwin Morgan, Atlanta, Ga., interested in organizing bank.

S. C., Spartanburg—Industrial Loan & Savings Co., capital \$20,000, organized with J. S. Christopher, Prest.; W. J. Woodruff, V.-P.; Edwin Morgan, Secy.

S. C., Spartanburg—Bank of Commerce and others interested in organizing Mutual Building & Loan Assn.

Va., Martinsville—Ford Homebuilding Co., capital \$50,000, incptd. with H. A. Ford, Prest.; J. L. English, Secy.

Va., Roanoke—Afro American Bank, capital \$50,000 incptd., with John H. Pinkard, Prest.; J. H. Robinson, Secy.

W. Va., Huntington—Coal Producers Insurance Agency, capital \$50,000 incptd., by E. L. Hogsett, C. C. Campbell and others.

New Securities.

Ala., Bessemer—School—City will issue \$100,000 school bonds; B. C. Jones, Mayor.

Ala., Carrollton—Road—Pickens County, B. G. Robison, Probate Judge, sold \$100,000 of 6 per cent 30-yr. road bonds, dated Sept. 1, 1921. (Previously noted inviting bids.)

Ala., Fayette — Drainage — Luxipallila Drainage Dist. of Fayette and Lamar counties contemplates issuing \$250,000 drainage bonds; Alex Smith, Probate Judge, Fayette, Ala.; J. T. Maddox, Probate Judge, Vernon, Ala.

Ala., Gadsden — Paving — City, H. A. Thomas, Clk., will receive bids until Oct. 17 on \$143,500 of 6 per cent paving bonds.

Ala., Troy—Sewer, Curb and Gutter—City plans voting on \$25,000 sewer and curb and gutter bonds. Address The Mayor.

Ark., Gurdon—Bridge—Comms. Whelen Bridge Dist., W. Lee Brown, Secy., will receive bids until Oct. 15 on \$27,500 of 6 per cent 20-yr. bridge bonds.

Ark., Pigott—Sewer and Water—City voted \$80,000 water and sewer bonds. Address The Mayor.

Fla., Bartow—Road—Polk County sold \$40,000 road bonds of Special Road and Bridge Dist. No. 6 to August Hechscher, L. H. Cramer and J. A. Byrd.

Fla., Fort Lauderdale—Jetties—City plans deep water bond issue. Address The Mayor.

Fla., Kissimmee—School—Osceola County will receive bids until Oct. 29 on \$12,000 of 8 per cent time warrants; C. E. Yowell, Supt. Public Instruction.

Fla., Lynn Haven—Graves, Blanchet and Thornburgh have acquired \$15,000 of 6 per cent bonds at par.

Fla., Manatee—Water and Sewer—City, Chas. J. Majory, Clk., will vote Oct. 21 on \$6,000 water and sewer bonds; 6 per cent \$500 denomination 20-yr. (Lately noted.)

Fla., Pensacola—Road Paving—Escambia County will receive bids until Nov. 15 on \$1,000,000 road paving bonds. Address County Comms.

Ga., Atlanta—Paving—City, J. A. Seawright, Chrmn. Finance Committee sold \$136,500 of 6 per cent 1-10 yr. paving bonds, dated Sept. 1, 1921 to Trust Co. of Georgia. (Lately noted inviting bids.)

Ga., Columbus—Park—City will vote Nov. 12 on \$150,000 park bonds. Address The Mayor.

Ga., Oglethorpe — School — Montezuma School Dist. sold \$100,000 of 6 per cent \$1000 denomination school bonds, dated Sept. 1, 1921 to Trust Co. of Georgia, Atlanta, Ga.

Ga., Perry—Water and Light—City will vote Oct. 17 on \$15,000 water and light plant bonds. Address The Mayor.

Ga., Pinehurst — Water — Trust Co. of Georgia purchased \$10,000 of 6 per cent water bonds.

Ky., Frankfort—Sewer—City sold \$75,000 sewer bonds to Halsey Stuart Co., Chicago, for \$78,886; 6 per cent semi-annual 20-yr.; W. S. Rosson, Mayor. (Lately noted inviting bids.)

Ky., Paducah—Sewer and Hospital—City, Wynn Tully, Commr. Public Finance, will vote Nov. 8 on \$600,000 of 40-yr. sewer and \$60,000 of 20-yr. hospital bonds. (Supersedes recent item.)

La., Cedar Grove—Water—City may sell \$300,000 water bonds. Address Mayor Hendricks.

La., Crowley — Improvement — City sold \$100,000 improvement bonds to, W. L. Slayton, Toledo, O.

La., Shreveport—Courthouse, Fire-Station, Fire Alarm System, Library, Park, Etc.—City voted \$200,000 courthouse, \$200,000 fire station, \$25,000 fire-alarm system, \$265,000 library, \$250,000 park and \$100,000 sewer bonds; Charlotte Wells, Clk. Council.

Md., Denton—School—Caroline County Comms. will receive bids until Oct. 18 on \$40,000 of 6 per cent semi-annual \$1000 denomination, dated Oct. 1, 1921; W. C. Todd, Prest.

Md., Frederick—School—Frederick County Comms. sold \$125,000 of 5 per cent semi-annual \$1000 denomination bonds to Citizens National Bank at 101. (Lately noted inviting bids.)

Miss., Jackson—Road—Learned Separate Road Dist., Hinds County voted Oct. 4 on \$20,000 road bonds. Address County Comms.

Miss., Kosciusko—School—E. W. Sullivan, Clk. Supvrs. received bids on \$10,000 of 6 per cent 1-20-yr. serial school bonds of Ayers Separate School Dist.

Mo., Jackson—Sewer—City plans voting on \$100,000 sewer bonds. Address The Mayor.

Mo., Kansas City—Water, Hospital, Bridge, Park, Street, Fire Department, Swimming Pools, Etc.—City will vote Nov. 22 on \$11,000,000 water bonds and \$6,750,000 other improvement bonds including \$100,000 hospital, A. S. B. bridge, \$600,000, Swope Park, \$900,000, 15th St. widening, \$800,000, Blue River Sewer, \$450,000, bridges and culverts, \$150,000, pavements city property, \$200,000, swimming pools, \$200,000, armory, \$500,000, colored hospital \$500,000, goose neck sewer, \$500,000, repair of pavements, \$250,000, municipal farm, \$150,000, sewers-general, \$200,000 regrading Main St., 24 to 27, \$200,000, Pershing Road Viaduct, \$100,000, 39th St. viaduct, \$250,000; 6 per cent \$100 to \$1000 denomination 20-yr.; Chas. S. Foreman, Asst. Engr., Water Dept. (Supersedes recent item.)

Mo., New Madrid—Drainage—New Madrid County Drainage Dist. No. 23 sold \$100,000 of 6 per cent tax-free bonds to Liberty Central Trust Co., and Lewis W. Thomson & Co.; both St. Louis, Mo.

Mo., St. Louis—Street—St. Louis County Improvement Assn., Charles Erd, Prest., will sell \$55,000 street bonds.

Mo., West Plains—Road—Howell County Court will receive bids until Oct. 20 on \$200,000 of 5 per cent \$1000 denomination bonds, dated Nov. 1, 1921; Ward Ellis, County Clk.

N. C., Charlotte—Sewer—City may sell \$150,000 sewer bonds. Address The Mayor.

N. C., Edenton—Road—Chowan County, R. W. Boyce, Clk. Comms., will receive bids until Oct. 20 on \$300,000 of 6 per cent semi-annual road bonds.

N. C., Greensboro—White Way—City may vote on \$300,000 water and sewer bonds. Address City Mgr. Painter.

N. C., Kernersville—School—Board Trustees of Kernersville Graded School Dist. will receive bids until Oct. 15 on \$25,000 of 6 per cent semi-annual \$1000 denomination school bonds, dated Oct. 1, 1921; Jas. J. Griffith, Secy. (Lately noted voting bonds.)

N. C., Raleigh—Road—State Treas., Ben Lacy, sold \$5,000,000 North Carolina notes at 5.95 per cent interest.

N. C., Thomasville—Public Improvement—City will receive bids until Oct. 24 on \$100,000 of semi-annual \$1000 denomination bonds, dated Oct. 1, 1921. Address City Mgr.

N. C., Warrenton—School—Trustees of Warrenton Graded and High Schools will receive bids until Oct. 17 on \$70,000 of 6 per

cent \$500 denomination school bonds, dated Jan. 1, 1922; V. F. Ward, Chrmn.

N. C., Wilson—School—Saratoga Township School Dist. voted \$25,000 school bonds; R. T. Barnes, Clk., Wilson County Comms. (Lately noted to vote.)

Okla., Ardmore — Road — Carter County plans voting on \$500,000 road construction bonds. Address County Comms.

Okla., Chickasha — Water, Sewer and Bridge—City will vote Oct. 24 on \$50,000 water and sewer and \$30,000 bridge bonds; John C. Miliken, City Engr.

Okla., Cordell—Water—City sold \$50,000 of 6 per cent \$1000 denomination water bonds to, E. G. Fike & Co., Tulsa, Okla. (Lately noted voting.)

Okla., Enid—Water—City, R. T. Williams, Clk. votes Oct. 11 on waterworks bonds.

Okla., Fairland—Water—City will vote in October on \$65,000 water bonds. Address The Mayor.

Okla., Holdenville—Sewer and Convention Hall—City Clk. will receive bids until Oct. 11 on bonds recently voted. (Lately noted voting.)

Okla., Jay—Road—Delaware County voted \$27,000 road bonds. Address County Comms.

Okla., McAlester—Courthouse—Pittsburgh 20 on \$30,000 sewer and \$15,000 convention County may vote on \$300,000 of 6 per cent courthouse bonds. Address County Comms.

Okla., Mooreland — School — Mooreland School Dist. bonds were approved by Attorney General on Sept. 2.

Okla., Pauls Valley—Sewer—City plans voting on sewer bonds. Address The Mayor.

Okla., Wilson—Water, Land, Electric, Fire Equipment, Etc.—City will vote Oct. 19 on \$140,000 water, land, electric, fire equipment and other bonds; Isaac Roberts, Mayor. (Lately noted.)

S. C., Columbia—Hospital—Sidney, Spitzer & Co., New York, have purchased and are offering to investors \$300,000 of 6 per cent hospital bonds, dated July 1, 1921.

S. C., Sumter—Road—Sumter County Permanent Road Comsn. sold \$500,000 road bonds to Sydney, Spitzer & Co., Toledo, O., at par and premium of \$266.66.

S. C., Union—School—Board Trustees, Union School Dist. No. 11 voted \$75,000 school bonds; 6 per cent semi-annual 1 to 40-yr.; C. C. Sanders, Clk. (Lately noted to vote.)

S. C., Walhalla—Water and Sewer—City voted Oct. 4 on \$120,000 of 6 per cent \$1000 denomination water and sewer bonds. Address The Mayor. (Supersedes recent item.)

Tenn., Cleveland—Paving—City, L. L. Woolen, Mayor, receives bids Oct. 12 on \$100,000 of 6 per cent semi-annual 20-yr. paving bonds.

Tenn., Nashville—Street and General Improvement—City sold \$58,000 street and \$46,000 general improvement bonds to Stern Bros. & Co., Kansas City, Mo.; 6 per cent semi-annual \$1000 denomination dated Sept. 1, 1921. (Lately noted inviting bids.)

Tex., Angleton—School—Brazoria County Common School Dist. No. 15 registered \$20,000 of 6 per cent 1-20 yr. school bonds with State Comptroller.

Tex., Athens—Street—City, T. B. Wofford, Mayor, receives bids Oct. 8 on \$100,000 of 6 per cent semi-annual 15-yr. street improvement bonds.

Tex., Breckenridge — Road — Stephens County sold \$1,400,000 road bonds to J. L. Arlitt Co., Austin, Tex.; these bonds were voted in November 1919.

Tex., Bryan—Bridge—Brazos County will

vote Oct. 29 on \$100,000 bridge warrants. Address County Commrs.

Tex., Dallas—Water and Incinerator—City sold \$650,000 improvement bonds including \$450,000 water and \$200,000 incinerator to Eldredge & Co. (Lately noted inviting bids.)

Tex., Edinburg—Water—Attorney General's Dept., Austin, Tex., approved \$30,000 water bonds.

Tex., Edinburg—Electric—Attorney General's Dept., Austin, Tex., approved \$50,000 electric light bonds; will sell soon. Address The Mayor.

Tex., Ennis—Paving, Sanitarium, Etc.—City may vote on \$250,000 street, sanitarium and other improvement bonds. Address The Mayor.

Tex., Georgetown—Road—Williamson County sold \$336,000 road bonds to Smith & Moore, St. Louis, Mo., at par and accrued interest. (Lately noted inviting bids.)

Tex., Hewitt—School—Hewitt Independent School Dist. registered \$22,000 of 6 per cent 20-40-yr. bonds with State Comptroller.

Tex., Greenville—Street—Attorney General's Dept., Austin, Tex., approved \$5,000 of 6 per cent serial street bonds.

Tex., Jasper—Road—Jasper County Highway Comsn. will receive bids until Oct. 17 on \$100,000 of 6 per cent road bonds; J. R. Gill, Chrmn., Ridgeland, S. C.

Tex., Laredo—Paving—City will vote Oct. 22 on paving bonds; Leopoldo Villegan, Mayor.

Tex., Marshall—Road—Harrison County sold \$251,000 road bonds to Chicago firm; T. S. Caven, Commr. (Supersedes recent item.)

Tex., Marlin—Water—City voted \$225,000 water bonds. Address The Mayor.

Tex., McKinney—Road—Attorney General's Dept., Austin, Tex., approved \$20,000 Collin County Road Dist. No. 1 bonds.

Tex., Memphis—Electric—J. L. Arlitt, Austin, Tex., purchased \$85,000 of 6 per cent electric bonds, dated May 15, 1921; due May 15, 1951. (Lately noted.)

Tex., Nacogdoches—School—City voted \$50,000 school bonds. Address The Mayor.

Tex., Odessa—Road—Ector County will sell \$97,000 of 5½ per cent semi-annual 30-yr. road bonds; J. T. Cross, County Judge.

Tex., Palestine—School—City voted \$42,000 school bonds. Address The Mayor.

Tex., Palo Pinto—Road—Attorney General's Dept., Austin, Tex., approved \$1,000,000 road bonds recently voted; E. L. Pitts, County Judge; M. V. Smith, County Engr.

Tex., Plainview—School—Attorney General's Dept., Austin, Tex., approved \$50,000 of 6 per cent serial Plainview Independent School Dist. bonds.

Tex., Sherman—Road—Grayson County plans selling \$38,000 road bonds; D. B. Steed, County Judge.

Tex., Slayden—School—School Dist. No. 51 voted \$6,000 school bonds. Address Board of Education.

Tex., Stanton—Road—Martin County received bids on \$60,000 road bonds; 5½ per cent semi-annual \$1000 denomination 20-yr.; A. G. Odom, County Judge.

Tex., Tahoka—Road—Attorney General's Dept., Austin, Tex., approved \$60,000 Lynn County Special road bonds; 5½ per cent serial.

Tex., Three Rivers—School—Three Rivers Independent School Dist. will receive bids until Nov. 1 on \$8,000 of 5 per cent school bonds. Address Board of Education.

Tex., Vernon—Road—Willbarger County will vote Oct. 29 on \$600,000 road bonds. Address County Commrs. (Lately noted.)

Tex., Wheeler—Bridge—S. P. Britt, purchased \$57,000 of 5½ per cent 10-40 yr. bridge bonds, dated Jan. 1, 1921.

Va., Roanoke—Sewer and Drainage—City, P. H. Tucker, Clk., will receive bids until Oct. 15 on \$100,000 of 4½ per cent semi-annual 28½ yr. sewer and drainage and \$50,000 of 4½ per cent semi-annual 26½ yr. improvement bonds.

Va., Rockymount—Water—City voted \$25,000 water bonds. Address The Mayor. (Lately noted to vote.)

W. Va., Charleston—Road—State, Gov. E. F. Morgan sold \$15,000,000 Road bonds to Watkins & Co., New York.

Financial Notes.

Citizens Savings & Loan Co., Charlotte, N. C., increases capital from \$200,000 to \$500,000. Peoples Bank, Grantsville, W. Va., increases capital from \$30,000 to \$50,000.

Railways.

Fla., Oldsmar—Gulf Lumber & Power Co. are completing 3½ mi. lumber railroad from Oldsmar to timber lands. W. P. Allen is Gen. Mgr.

Okla., Salina—Construction of the Oklahoma & Arkansas Railway from Salina to Kansas, Okla., 28 mi., has been approved by the Interstate Commerce Commission which has authorized the company to issue \$307,000 of capital stock. J. W. Hoffman, 618 Bryant Bldg., Kansas City, Mo., will award contracts. H. L. Traber, Muskogee, Okla., is Pres.

Fla., Tampa—City will ask for bids to build a double track belt line railroad around the city waterfront. Address City Commission.

Trade Literature

Equipment for Chemical Industries.

A finely illustrated booklet issued by the Graver Corporation, East Chicago, Indiana, presents illustrations and descriptions of their equipment for the chemically controlled industries and including steel tanks, gas purifiers, coke stills, pressure stills, agitators for oil refining, creosoting retorts, water softeners, etc.

Capstans—Car Pullers—Hoists.

An improved line of steam and electric capstans and capstan type car pullers is described and illustrated in Catalog No. 33 just issued by the S. Flory Manufacturing Co., of Bangor, Pa. It is complete and of artistic appearance. The company have also issued two preliminary bulletins about their hoists, one relating to the band friction type and the other to the cone friction type.

Crushing Rolls.

Buchanan crushing rolls, Type C, are the theme of Bulletin No. 13 of the C. G. Buchanan Company, Inc., 90 West St., New York. It introduces the subject by giving a brief history showing the origin and first use of rolls and then describes and illustrates the Buchanan products with full details as to sizes and capacities, etc. The tables are believed to be original, besides being simpler and more easily understood than diagram charts.

Piping Systems.

Bulletin R-10 is a new publication from the M. J. Dougherty Co., piping fabricators and engineers, 25th St. and Washington Ave., Philadelphia, Pa., and it contains interesting comments upon the importance of piping systems and the value of proper design and erection. It is written briefly and to the point.

Waterproofing and Hardening.

L. Sonneborn Sons, Inc., 262 Pearl Street, New York, have issued a folder describing the numerous advantages of their product "Hydrocide" for waterproofing walls, etc., and the method of applying it. "Lapodith," for hardening and dust proofing concrete floors, and "Fermo," for accelerating the setting of concrete and densifying the mass, are also considered.

Fire Brick for Various Uses.

The Ashland Fire Brick Company, Ashland, Ky., have issued four finely prepared bulletins respectively, No. 101, relating to fire brick for boiler settings; No. 102 to fire brick for rotary cement kilns, No. 103 to fire brick for oil burning furnaces and No. 104 to fire brick for glass furnaces. All of these publications are illustrated and contain valuable information. Copies will be sent on request.

Equipment for Sewage and Other Waste.

The Dorr Company, engineers, 101 Park Avenue, New York, have issued their Bulletin No. 20, a new publication descriptive of Dorr equipment for the treatment of sewage and industrial trade waste, and giving particular reference to the Dorrer screen and also their sewage clarifier, which have been extensively used for the treatment of municipal sewage, as well as in tanneries and other industrial plants. The bulletin is illustrated.

Club Room and Other Supplies.

Catalogue D-65 of Albert Pick & Company, 208-224 West Randolph Street, Chicago, is a profusely illustrated book of 86 pages concerning their equipment and supplies for billiard rooms, club rooms and bowling alleys. Accompanying the pictures are full descriptions of the products offered. A number of the illustrations of leading articles, such as billiard tables, balls, cues, etc., are printed in rich colors so that the customers may see exactly how they look.

Wood Preservation.

"Long Life For Wood" is the name of the booklet issued by the Barrett Company about the use of Barrett Carbosota creosote oil for the preservation of wood in farm buildings, fences, etc. It shows how homemade lumber and timber treating plants may be easily and cheaply constructed and gives instructions as to the treatment. There are numerous illustrations. The company have also issued a small booklet of pocket size on this subject and also illustrated.

Employees Picnic Number.

The September issue of "Westinghouse Machine News," a bi-monthly magazine for employees of the South Philadelphia works of the Westinghouse Electric & Manufacturing Co., is described as the "Third Annual Picnic Number." The picnic was held at Tinicum Woods and their environs and the magazine tells all about how the day was spent, the narrative being accompanied by numerous illustrations, all of an intimate and personal character especially interesting to the participants.



Wreck due to collapse of coal chute trestle. Decay of timbers was the contributory cause. The insert shows some of the timbers that gave way.

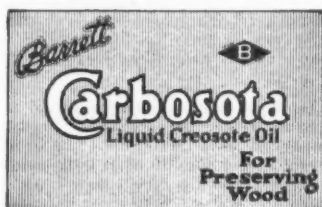
Another Advantage of Wood Preservation

YOU only need to look at the photographs above to realize that the cost of timber replacements is often but a small part of the *real* cost of wood decay.

While preservative treatment is not, of course, absolute insurance against the collapse of wooden structures, in the case illustrated and in countless others, wood decay has been primarily responsible for the destruction of valuable equipment and the endangering of the lives of workmen.

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and the Open Tank process (hot and cold or hot and cooling bath). It conforms to standard specifications. Its special feature is the low liquid point of 5 degrees Centigrade (41 degrees Fahrenheit).

But, to be effective, Carbosota must be used properly. Not only every step in the preservative treatment of the timber, but the species, grade and condition of the timber itself should be fully covered by definite specifications.

Such specifications, specially adapted to meet any given condition, together with suggestions for equipment and methods of procedure, may be obtained without cost by addressing our nearest office.

(Green wood cannot be effectively creosoted by non-pressure processes. It should be seasoned. All framing, drilling of bolt holes, etc., should be done before treatment. If this is impossible, two brush coats of Carbosota should be applied to all untreated surfaces exposed by subsequent cutting or drilling.)



Surface treatments (two or more brush coats of Carbosota) at points of contact

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Spraying: applying Carbosota to ends, mortises and tenons (points of contact) of caps and stringers for trestle

INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

Their Canadian Plant Announced.

The Austin Machinery Corporation has issued an announcement that the Canadian Austin Machinery, Limited, Woodstock, Ontario, incorporated under the laws of Canada, will henceforth act as sole manufacturers and distributors in Canada of the complete Austin line of earth-moving and concrete mixing equipment. It is further stated that the manufacture of Austin machinery at Woodstock enables the Canadian organization to supply this broad line of contractors' requirements for construction, good road making, reclamation, excavation and irrigation promptly and also to furnish service in maintenance. The Austin motto, which appears at the head of the announcement, reads "Forty Years of On the Job Experience," and this experience, it is stated, is "built into" the machines.

An Extensive Park Development

The Spartanburg Park Commission, I. A. Phifer, Chairman, has retained E. S. Draper, landscape architect and city planner, Charlotte, N. C., to act as consulting architect in development of city parks. An extensive development for Cleveland Park is now under way including the construction of roads, lakes, bridges, athletic field, park pavilion, bathing houses, childrens' play ground and playhouse and other features. Engineering and construction work by W. N. Willis, engineer, Spartanburg. Other improvements will be taken up after the completion of Cleveland Park. Approximately forty acres are included in the area under construction, which will give Spartanburg when completed one of the most attractive parks in the South.

Change of Business Connection.

Fritz R. Lindh, recently chief engineer of the Graton & Knight Mfg. Company, has joined the sales organization of the Chicago Belting Company. Mr. Lindh is a graduate of the West Point United States Military Academy, Class of 1914 and left the army in the spring of 1920 with the rank of major. He will have charge of the Pittsburgh direct factory branch of the Chicago Belting Co. at 336 Third Ave., Pittsburgh, Pa., but he will also make personal engineering surveys throughout the country for many large users of belting.

Another Cut in Truck Prices.

In line with recent reductions in material costs the Standard Motor Truck Co., Detroit, Michigan, have announced substantial reductions averaging 15 per cent in the price of all their models. It is noted that following the reduction sales have greatly improved and production has increased one-fourth. This company acted early last year by making their first reduction from war time prices on Sept. 1, 1920.

Now in New Position.

Earl F. Heimpel, M.E., formerly chief engineer of the Edison Portland Cement Co., Stewartsville, N. J., has resigned to enter the sales force of the M. J. Dougherty Co., piping fabricators and engineers, 25th St. and Washington Ave., Philadelphia, Pa. He is a graduate of Lehigh University and has had a broad and varied experience in engineering. He will be located at the home office.

Consolidation and Merger.

The Central Steel Company, Massillon, Ohio, announces that the consolidation and

merger of the Central Steel Company, the Massillon Rolling Mill Company and the National Pressed Steel Company, have been duly ratified by the stockholders of the three companies and that the Central Steel Company has assumed and agreed to carry out all the valid contracts and obligations of the other two companies. All new business will, therefore, be addressed to the Central Steel Company, but business heretofore with either of the two other companies should be also indicated as of either the Massillon Rolling Mill division, or the National Pressed Steel division, as the case may be. Combined assets in excess of \$20,000,000 are represented in the consolidation and the officers are now as follows: Chairman of the Board of Directors and President, R. E. Bebb; First Vice President, F. J. Griffiths; Second Vice President, C. C. Chase; Third Vice President, H. M. Naugle; Secretary and Treasurer, C. E. Stuart. There are outstanding 300,000 shares of no par common stock and \$10,000,000 of preferred stock. The merger places the Central Steel Company in a prominent position among the largest steel producing corporations in the country with complete modern equipment and other facilities for producing all kinds of commercial alloy steels, hot and cold rolled sheets, hot rolled strip steel and light structural steel sections, the combined annual output being from 450,000 to 475,000 tons of finished material.

Southern Brick in Atlantic City.

A feature of the grill room of the Ritz-Carlton Hotel at Atlantic City, the latest addition to the group of large hosteleries at this seaside resort, is the construction of the brick walls. They have a peculiar purplish hue and their texture is distinctive and characteristic. These brick were manufactured at the Sumter Brick Works, Sumter, South Carolina, which have also supplied their products for use in the erection of numerous other notable edifices at various places throughout the country.

Appointment.

John L. S. Birkinbine, of the Birkinbine Engineering Co., Philadelphia, Pa., has been made general manager of the Southern Coal & Iron Corporation, and will, it is stated, assume the management of the corporation's iron properties at Bittenhouse Gap, Pa., and Roanoke, Va. For some years he has been consulting engineer for the Colorado Fuel & Iron Co. and also the Bethlehem Steel Co.

Trade Literature

Improved Electric Lamp.

A small circular issued by William White, Cottdale, Ala., describes his patent for an improvement in the construction of incandescent electric lamps. It is asserted that this lamp casts rays of light clear, bright and perfectly diffused. A current of only moderate voltage is required.

A Record of Ships Built.

The New York Shipbuilding Corporation, whose general office and works are at Camden, New Jersey, and executive offices at 120 Broadway, New York, have issued a fine, large book of more than 60 pages bearing the title "A Record of Ships Built," which forms a most valuable addition to the marine literature of the age. It illustrates beauti-

fully with brief descriptions the many different types of vessels which have been constructed at the yards of this organization, including passenger steamers, tankers, colliers, superdreadnaughts, destroyers, general cargo vessels, coastwise and river steamers, lightships, revenue cutters, fire boats, ferry boats, car floats, etc., from the smallest to the largest and most powerful vessels. It is a publication that reflects great credit upon the company and also upon those who planned and produced it.

Wiring Fittings.

Bulletin No. 10 issued by the Michigan Stamping Company, Detroit, Michigan, contains descriptions and illustrations of electric wiring fittings, including a patented sectional switch box, panel surface cabinets, a patented stamped steel fixture stud and other products. It is announced that the company have acquired the business of the Toledo Metal Products Company and have transferred their organization to the Detroit plant, where it is known as the electrical division of the Michigan Stamping Co.

Sewage Tank Patents.

The Pacific Flush-Tank Co., of Chicago and New York, has issued a folder relative to the present status and ownership of the Imhoff sewage treatment tank patents, the patentee being Dr. Karl Imhoff, of Essen, Germany. These patents, as being the property of an alien enemy, were seized, it is stated, by the Alien Property Custodian March 1, 1919, and on March 21, 1919, they were sold to the Chemical Foundation, Incorporated, New York, an "all-American interest." A list of royalty fees is given.

Paper Trade Directory.

Lockwood's Directory of the paper, stationery and allied trades, for 1922, has been issued. The publishers, the Lockwood Trade Journal Co., Inc., 10 East 39th St., New York, announce that the book has been thoroughly revised and brought up to date and that it includes all paper, wood pulp and chemical fibre mills in the United States, Canada, Mexico and South America with names of officers, statement of each mill's equipment, and other important facts about every plant. It also shows makers of paper specialties; paper dealers; pulp rag and paper stock dealers; converters of paper; leading stationers and others handling stationery and office supplies, etc., including trade associations, statistics, etc. The price of the book is \$7.

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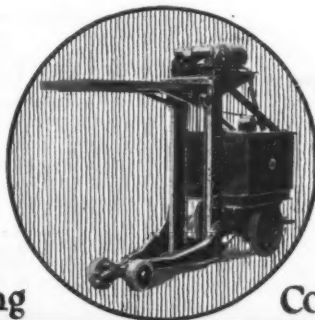
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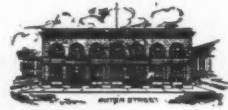
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Southern Trust Bldg.

Little Rock, Ark.

The Officers of Counties, Cities, School, Road and Drainage Districts

are invited to confer with our Buying Department in reference to needed money for public improvements, or for refunding outstanding obligations. We purchase bonds or other evidences of indebtedness for such purposes.

All information will be cheerfully furnished upon request.

VICTOR H. ARNOLD COMPANY, 111 W. Monroe Street, Chicago

NOTICE

"Railroad Contractors" - "Bond Dealers"

Eleven miles of railroad connecting a trunk line railroad with County Seat of one of the most prosperous counties in the state of West Virginia will be constructed at once.

The entire mileage extends through a field of Pittsburgh coal of high quality, practically a 1 drift mining.

County produces more oil and natural gas than any other county in the state.

Territory also has great natural resources. 60% cost of road subscribed to by preferred stock by local people.

Want contractors, bond dealers or other financial interests to take \$200,000.00 first mortgage bonds.

Kanawha Valley Development Co.
P. O. Box 473, Fairmont, West Virginia

We Finance

MUNICIPALITIES AND HIGH GRADE INDUSTRIAL COMPANIES

Correspondence Invited

Lawrence Chamberlain & Company

115 Broadway

(Incorporated)

New York

NOTICE TO CONTRACTORS

We want to buy bonds issued by cities, towns, counties, school, road or drainage districts that you may be able to take in exchange for work. Address us at our nearest office.

W. L. SLAYTON & CO.

New Orleans, La.

Toledo, Ohio

Chicago, Ill. Glasgow, Mont.

Tampa, Fla.



The answer to the truck tire question

If it were not for the necessity of cushioning his trucks and enabling them to get traction, the tire problem of the truck-owner would be simple. Indeed, he would have no problem, for he could use steel tires.

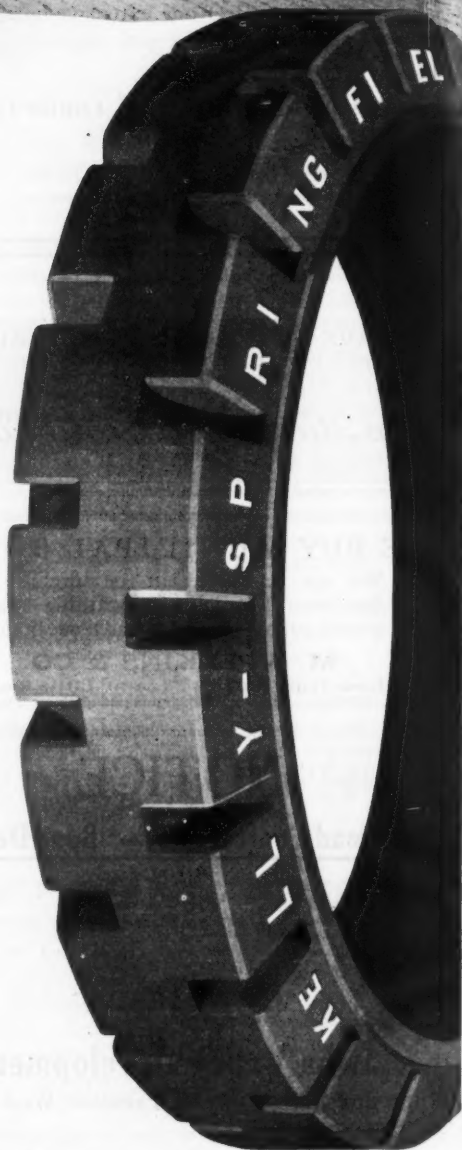
Trucks, however, must be protected from road shocks if they are to give the service the makers have built into them, and if they are to be operated economically the traction qualities of the tires must be considered.

The Kelly-Caterpillar is a cushion tire which not only gives traction and protects the truck but consistently delivers big mileage and is dependable at all times. It combines in itself all the good qualities of both pneumatic and solid, and the most convincing proof of this is the growing number of fleets on which it is becoming practically exclusive equipment.

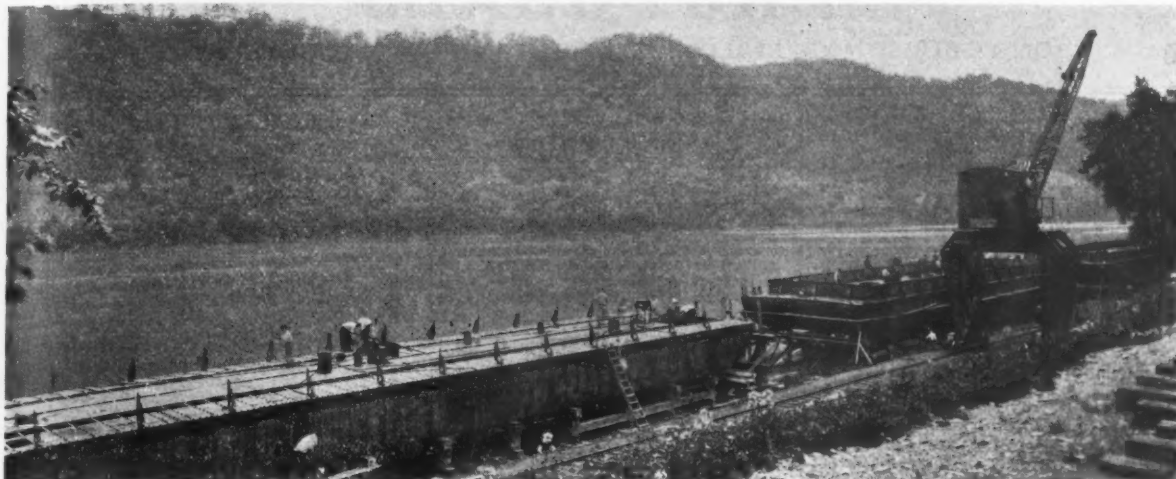
*Made in sizes suitable for trucks
of every type and weight*

Kelly-Springfield Tire Co.

GENERAL SALES DEPARTMENT
1710 Broadway, New York



Barge Building Ways of Midland Barge Co. on Ohio River at Midland, Pa.



Working on an initial order of five barges for Lock No. 45 in the Ohio River at Louisville. Two have already been launched. The barges are of steel, 110.8 feet long, 26.8 feet wide, and 6.6 feet in depth. Weight of each barge is about 100 tons, carrying capacity 300 tons. The Midland Barge Co. was organized recently to build barges in anticipation of increased water traffic, particularly on the Ohio and Mississippi Rivers.

Atlanta Home Building Activity Record Breaking.

Atlanta, Ga., October 8—[Special].—During the first nine months of this year building permits have been issued for 982 houses, of which 110 were issued last month. The largest number of permits for dwellings was issued in 1913, the total for the entire year being 1,072. The total involved in building permits last month was \$871,269. In January of this year there but 42 permits issued for dwellings, and since then the total has steadily climbed.

Norfolk Building Total for September is Over \$1,500,000

Norfolk, Va., October 8—[Special].—Building permits issued here last month established a new high record, involving the expenditure of approximately \$1,533,000. Of this total \$1,383,220 was for the erection of the Eastern Junior High School, \$595,400; Western Junior High School, \$573,000 and for rebuilding the grammar school, \$214,820. The total also includes 21 dwellings costing \$76,435.

Houston Building Active for September.

Houston, Texas, October 8—[Special].—The valuation of permits issued last month was more than treble the permits for the same month in 1920. In the month just ended 697 permits representing a total expenditure of \$1,136,169 were approved. In September, 1920, permits numbered 392, with a valuation of \$425,907. The bulk of the building now is houses and apartments.

Southern Pine Nowhere Near Exhaustion.

At the present rate of cutting—10,000,000,000 to 12,000,000,000 feet a year—it would require more than twenty years to exhaust the available supply of Southern pine in the forests found in the South Atlantic and Gulf States, stretching in an almost unbroken belt from Virginia to Texas and comprising in all, approximately 260,000,000,000 feet of standing timber, according to a statement just made public by the Southern Pine Association of New Orleans, La. And this is not counting the new growth, which has been estimated

to exceed five billion feet a year, and which will no doubt be much more than that when economic conditions make closer utilization of the forest material possible.

The statement issued by the association adds:—

"The idea now prevalent in some quarters, that the Southern pine forests are near depletion, is erroneous. To the contrary, Southern pine (original growth) is and will continue to be for many years, available in large quantities, in all standard sizes and grades, and well manufactured, though there will perhaps be a falling off in production within the next six to eight years, during which various large sawmills will have cut their timber. These large mills will be succeeded by many smaller mills, which will operate in scattered tracts of timber, which, because of size and location, the present operators found it unprofitable to utilize. Much timber of the best character of virgin growth is to be found in these small tracts, and the lumber produced from such trees will average fully as high in quality as that which is now going to the market, including adequate supplies of dense structural material to guarantee many years of application.

"From the best information available, it appears reasonable to expect a permanent supply of Southern pine of between 5,000,000,000 and 6,000,000,000 feet annually. For at least twenty years the bulk of this production will be from virgin growth; afterward second growth timber will comprise a larger and larger proportion of the output of the industry."

Textile Mill Notes.

Equipment for the manufacture of ladies' silk hosiery is being installed by E. D. Attix on the third floor of the building at 721 North Central Ave., Knoxville, Tenn. The plant will be operated as the Attix Hosiery Mill, with J. T. Tomblin as superintendent. The daily capacity of the first unit, is about 50 dozen pairs of hose. The machinery has been purchased from Scott & Williams of New York.

The establishment of a cotton mill at Hamlet, N. C., is being promoted by the Chamber of Commerce of that city. Correspondence is invited with manufacturers of cotton mill machinery.

PROPOSALS

BOND ISSUES
BUILDINGS
PAVING
GOOD ROADS

Bids close October 26, 1921.

TREASURY DEPARTMENT. Supervising Architect's Office, Washington, D. C., October 4, 1921. Sealed Proposals will be opened in this office at 3 p.m., October 26, 1921, for furnishing and installing lighting fixtures in the U. S. Public Health Service Sanatorium at Dawson Springs, Ky., in accordance with drawings and specifications, copies of which may be had at this office in the discretion of the Supervising Architect, Jas. A. Wetmore, Acting Supervising Architect.

Bids close October 18, 1921.

\$40,000 6% School Bonds.

CAROLINE COUNTY, MARYLAND
Denton, Md.

NOTICE IS HEREBY GIVEN. That the County Commissioners of Caroline County, will receive sealed bids for the purchase of Forty Thousand Dollars (\$40,000.00) par value of Caroline County, Maryland, School Bonds, up to one o'clock Tuesday, October 18th, 1921, at the office of said County Commissioners in Denton, Md.

The above bonds are offered for sale pursuant to power and authority contained in Chapter 375 of the Acts of the General Assembly of Maryland, 1920.

Said bonds will be dated October 1st, 1921, and will be in denominations of \$1,000, and will bear interest at the rate of six per centum (6%) per annum, payable semi-annually on the first days of April and October in each year. Said bonds will mature as follows:—\$4,000 October 1st, 1926, \$4,000 October 1st, 1927, \$4,000 October 1st, 1928, \$4,000 October 1st, 1929, \$4,000 October 1st, 1930, \$4,000 October 1st, 1931, \$4,000 October 1st, 1932, \$4,000 October 1st, 1933, \$4,000 October 1st, 1934, \$4,000 October 1st, 1935.

They will be exempt from State, County and Municipal taxes in Maryland.

Each bid must be accompanied by certified check, bank draft or cash, for an amount equal to five per cent (5%) of the par value of bonds bid for, as a guarantee that the successful bidder or bidders will receive and pay for said bonds upon delivery, unless same are rejected on legal grounds.

The County Commissioners reserve the right to reject any and all bids.

By order of the County Commissioners of Caroline County.

W. C. TODD,
President.

Bids close November 7, 1921.

\$45,000 5½% Bridge Bonds

Windsor, N. C.

The Board of Commissioners of Bertie County, North Carolina, will receive sealed bids at the office of the undersigned, S. W. Kenney, Clerk, in Windsor, North Carolina, until 12 o'clock noon, November 7th, 1921, for the purchase of forty-five thousand (\$45,000.00) Dollars coupon bridge bonds, known and designated as Williamson and Roanoke River Bridge Bonds of Bertie County, to bear date of the first day of December 1921, and bearing interest at five and one-half per cent payable semi-annually, both principal and interest payable at Seaboard National Bank of New York City, N. Y., and interest payable on the first day of June and December of each year; bonds to be in denomination of Five Hundred Dollars each, maturing one thousand dollars each year on the first day of each December beginning December 1922 to December 1951, both inclusive, and fifteen hundred dollars each year on the first day of each December beginning December 1952 to December 1961, both inclusive. The sealed bids for the purchase of these bonds will be opened by the Board of Commissioners in the office of the Register of Deeds at Windsor, N. C., on Monday the 7th day of November, 1921, at noon, and no bid will be considered for less than par value and accrued interest. The right to reject any and all bids is expressly reserved. This the 5th, day of October 1921.

S. W. KENNEY,
Clerk to the Board.

Bids close Oct. 14, 1921.

\$70,000 6% Bonds.

Hartsville, S. C.

Bids will be received up to noon of Oct. 14, 1921 on \$70,000.00 Town of Hartsville, S. C. Refunding Railroad and Water and Sewer Funding Bonds dated Nov. 1, 1921, bearing 6% interest payable semi-annually at National Bank of Commerce, N. Y. Right is reserved to reject any or all bids. For particulars apply to Mayor, Hartsville, S. C.

\$117,000 5½% Road Bonds.

Midland, Tex.

The Commissioners Court of Midland County, Texas, solicit bids on an issue of \$117,000.00 worth of Special Road Bonds. Bonds are 30-year serial, in \$1,000.00 units, dated August 1, 1921, drawing 5½ per cent interest payable semi-annually, at Midland, Texas, Austin Texas, or at the Chemical National Bank, New York City.

A certified check for one per cent, shall accompany all bids. Bids to be addressed to J. M. DeArmond, County Judge, of Midland County, Midland, Texas.

The Commissioners Court reserve the right to reject any and all bids.

Bids close November 7, 1921.

\$31,000 6% Time Warrants.

NOTICE OF CHANGE OF DATE

Vernon, Fla.

On Monday November 7th, 1921, at 1 o'clock P. M. at Vernon, Florida, the Board of County Commissioners, of Washington County, Florida, will sell, Thirty-One Thousand Dollars Time Warrants, bearing interest at the rate of Six per cent, interest payable annually; Warrants issued serially in denominations of One Thousand Dollars each, and payable at the National City Bank, New York, in from Two to Eleven years.

Sealed bids will be received at the office of the Clerk of the Circuit Court, up to 12 o'clock noon, October 3rd, and bidders will be required to accompany their bid with Cashier's check in the sum of One Thousand Dollars, as a guarantee of good faith.

For further particulars write to A. G. McQuagge, Clerk of the Circuit Court, Vernon, Florida.

THE BOARD OF COUNTY COMMISSIONERS,
WASHINGTON COUNTY,
FLORIDA.

BY A. D. CAMPBELL,
Chairman said Board.

Attest:
A. G. McQuagge,
Clerk.

Bids close November 8, 1921.

\$240,000 Road Bonds.

Bushnell, Fla.

Notice is hereby given, that W. N. Potter, Clerk of the Board of County Commissioners of Sumter County, Florida, will receive bids up to 12 o'clock noon of Tuesday, November 8th, 1921, at his office in Bushnell, Florida, for \$240,000.00 worth of the \$750,000. County Road Bonds of Sumter County, Florida said Bonds being dated January 1st, 1920 and maturing as follows; twenty of said Bonds January 1st, 1948 and twenty of said Bonds on the First day of January of each year thereafter, up to and including, January 1st 1959. Said Bonds being in the denomination of \$1,000.00 each, interest payable semi-annually and drawing interest at the rate of 6%, interest payable on the First day of January and July of each year. Bidder to accompany his bid with certified check for 2% of the amount bid as evidence of good faith.

The County Commissioners reserve the right to reject any and all bids.

W. N. POTTER,
Clerk Board of County Commissioners,
Sumter County, Florida.

\$60,000 5½% Road Bonds.

Stanton, Tex.

The Commissioners Court of Martin County, Texas, solicit bids on an issue of \$60,000.00 worth of Special Road Bonds. Bonds are 20-year serial in \$1,000.00 units, dated March 1st, 1921, drawing 5½ per cent, interest, payable semi-annually at Stanton, Texas, Austin, Texas, or New York City.

A certified check for one per cent, shall accompany all bids. Bids to be addressed to O. G. Oden, County Judge of Martin County, Stanton, Texas.

The Commissioners Court reserve the right to reject any and all bids.

Bids close November 10, 1921.

\$350,000 6% Road and Bridge Bonds

West Palm Beach, Fla.

Notice is hereby given that sealed bids will be received by the Board of County Commissioners of Palm Beach County, Florida, at the office of Fred E. Fenno, Clerk, in the Court House of Palm Beach County, at West Palm Beach, Florida, up to twelve o'clock noon on the 10th day of November A. D. 1921, for the purchase of Three Hundred Fifty Thousand (\$350,000.00) Dollars par value of Special road and bridge district bonds to be issued by Special Road and Bridge District Number Eleven of Palm Beach County, Florida, bearing date the 1st day of July, A. D. 1921, said bonds to bear interest at the rate of 6% per annum payable semi-annually on the 1st day of January and 1st day of July of each year, interest and principal payable at the County Depository in West Palm Beach, Palm Beach County, Florida, or at the Seaboard National Bank in the City of New York. State of New York, said bonds to be issued in the denomination of One Thousand (\$1,000.00) Dollars each and four of said bonds maturing on July 1st of each of the years 1922, 1923, 1924, 1925 and 1926, five of said bonds maturing on July 1st, 1927, six of said bonds maturing on July 1st of each of the years 1928 and 1929, seven of said bonds maturing on July 1st of each of the years 1930 and 1931, eight of said bonds maturing on July 1st of each of the years 1932 and 1933, nine of said bonds maturing on July 1st of each of the years 1934 and 1935, ten of said bonds maturing on July 1st of each of the years 1936 and 1937, eleven of said bonds maturing on July 1st of each of the years 1938 and 1939, twelve of said bonds maturing on July 1st, 1940, thirteen of said bonds maturing on July 1st, 1941, fourteen of said bonds maturing on July 1st, 1942, fifteen of said bonds maturing on July 1st of each of the years 1943 and 1944, sixteen of said bond maturing on July 1st, 1945, seventeen of said bonds maturing on July 1st, 1946, eighteen of said bonds maturing on July 1st, 1947, nineteen of said bonds maturing on July 1st, 1948, twenty of said bonds maturing on July 1st, 1949, twenty-one of said bonds maturing on July 1st of each of the years 1950 and 1951, twenty-two of said bonds maturing on July 1st, 1952.

Bids will be received for all or any part of said bonds. The bids must specify the amount of the bonds bid for, the time when bidder will comply with his bid and whether the bid is in current money or evidences of indebtedness against the County. Each bid must be accompanied by certified check for two per cent of the par value of the bonds bid upon. The board reserves the right to reject any or all bids.

By order of the Board of County Commissioners of Palm Beach County, Florida.

HECTOR HARRIS,
Chairman.

Co. Commissioners
Seal

Attest.

Fred E. Fenno, Clerk.
M. D. Carmichael,
Attorney for Board.

Bids close October 17, 1921.

Road Improvements

Southport, N. C.
Sealed proposals, on blank forms furnished by the County, addressed to the Board of County Commissioners of Brunswick County, N. C. at Southport, N. C. will be received until Two O'clock P. M., October 17th, 1921, for furnishing all material, equipment and labor for the following work:

Approximately 74,000 square yards of Concrete, Sheet Asphalt, Asphaltic Concrete or Warrentite-Bituminous Road Paving, complete with the necessary curb and pipe drainage; also approximately twelve concrete culverts, all as adopted by said Board.

Each bid shall be accompanied by a certified check for at least FIVE THOUSAND (\$5000.00) DOLLARS. Certified check shall be made payable to the Chairman of the Board of Commissioners of Brunswick County, N. C. A satisfactory "Bidder's Bond" will be accepted in lieu of a certified check.

The right is reserved to reject any or all bids.

Plans and specifications can be seen at the office of the Register of Deeds at Southport, N. C. and at the office of the Engineers at Elberton, Ga. Copies of the plans and specifications may be obtained from the Engineers upon payment of Twenty Five (\$25.00) Dollars. Fifteen Dollars of which will be refunded upon their return in good condition. Specifications may be obtained from Engineers upon payment of Two (\$2.00) Dollars.

JOHN JENRETTE,
Chairman.

W. H. WATKINS,
Register of Deeds and Ex-Officio Clerk
of the Board of County Commissioners.
H. S. JAUDON ENGINEERING CO.,
Engineers, Elberton, Georgia.

Bids close November 1, 1921.

Road Construction

Lewisburg W. Va., Oct. 4, 1921.

Sealed proposals will be received by the County Court of Greenbrier County, at Lewisburg, W. Va., until 12 o'clock noon of November 1st, 1921, for the grading and draining of about 7 1/2 miles of the Blue Sulphur Turnpike from Palestine to Buster's Store at Blue Sulphur Springs, approximate quantities are as follows:

16000 cu yds.	Exc.
8500 cu yds.	Borrow.
890 cu yds.	Pipe Exca.
9400 cu yds.	Over Haul.
1200 Lin Ft.	12 in V.C. Pipe.
542 "	15 "
150 "	18 "
312 "	24 "
86 "	30 "
3 Acres	Clearing
2 Acres	Grubbing.
2880 rods	Fencing

Plans and Specifications may be seen and information obtained at the office of J. W. Rader, County Engineer, Lewisburg, W. Va. and County Clerk's Office.

A Certified Check for 5% of the amount of the bid must accompany each proposal.

The County Court reserves the right to reject any or all bids.

J. W. RADER,
County Engineer.

Bids close October 22, 1921.

Water Meters

Memphis, Tenn.

The Memphis Artesian Water Department will receive proposals at its offices, 105-7 North Second Street, Memphis, Tenn., up to 12 o'clock noon Saturday, October 22nd, 1921, for furnishing one thousand (1000) five-eighths inch (5/8") water meters, without couplings, f.o.b. Memphis, Tenn.

Any bidder who so desires may submit price on an equal number of old meters, now in the hands of the Water Department, price to be based f.o.b. our warehouse, ready for shipment. The following old meters are on hand: 1503-3/4 inch Gamons; 286-3/4 inch, 25-3/4", 44-1 inch, 12-1 1/2 inch, 11-2 inch, and 1-4 inch Crows; 202-3/4 inch, 35-3/4 inch, 9-1 inch, 1-1 1/2 inch and 3-2 inch Hersey Rotaries.

In award of contract due consideration will be given to general adaptability to local conditions and price, the Commissioners reserving the right to reject any and all bids.

Address proposals to Board of Water Commissioners, Memphis Artesian Water Department, Memphis, Tenn. Mark: "Bid on Meters."

W. H. HARRISON,
General Superintendent.

Bids close October 17, 1921.

Notice to Building and Heating Contractors.

Glennville, Ga.

Sealed proposals will be received by the Trustees of Glennville School District of Tatnall County, Ga., on Monday October 17th, 12 A. M. in Glennville, Georgia, for the erection and heating of a High School Building for said District in the City of Glennville, according to plans and specifications prepared by Willis Irvin, Architect, 1403-04 Lamar Building, Augusta, Georgia.

Plans and Specifications may be secured by building Contractors upon a deposit of \$25.00, and by Heating Contractors upon a deposit of \$10.00, which deposits are to be returned upon the submission of a bona fide bid and the return of the plans and specifications in good condition to the Architect. Building Contractors may secure extra sets of plans upon a payment of \$5.00 per set to cover printing costs; these plans remain the property of the Architect. Plans will be on file in the Office of the Atlanta Builders Exchange, and in the office of Willis Irvin, Architect, Lamar Building, Augusta, Georgia, and C. L. Cowart, Glennville, Ga.

Proposals for the erection of the building shall be accompanied by a certified check of \$500.00, and proposals for the heating shall be accompanied by a certified check for \$250.00; said checks to be made payable to the order of C. L. Cowart, Chairman. Bonds will be required of the successful bidders. The right is reserved to reject any or all bids.

C. L. COWART,
Chairman, Board of Trustees.

Bids close October 18, 1921.

Sewer Construction

Memphis, Tenn., Sept. 23, 1921.

Sealed proposals will be received at the office of C. C. Pashby, City Clerk, City Hall, until 12 o'clock noon Tuesday, October 18th, 1921, for doing the following described work:

Construction of Binghampton sanitary sewer outlet main.

7650 Lineal feet of 33-inch terra cotta pipe laid 6 feet to 20 feet deep in open cut.

1890 Lineal feet of 33-inch terra cotta pipe laid in tunnel.

890 Lineal feet of 21-inch pipe laid 6 feet to 8 feet deep.

3560 Lineal feet 18-inch pipe laid 6 feet to 20 feet deep.

25 Manholes built.

1-60 ft. Siphon.

1-Concrete Spillway.

Specifications and profiles governing the above work may be procured at the office of the City Engineer.

The right is reserved to reject any and all bids.

Certified check for two hundred and fifty (\$250.00) dollars, payable to the order of the City of Memphis, or a bidder's bond for a like amount conditioned on the bidder executing the contract, if awarded to him, shall accompany the proposal.

Said check or bond as the case may be, will be returned to the unsuccessful bidder upon awarding the contract, and to the successful bidder when he makes approved bond for the faithful performance of the contract.

Cash payments of this work will be made out of the special sewer funds of the City of Memphis.

By order of the Board of Commissioners of the City of Memphis.

ROWLETT PAINE,
Mayor.

Attest:
C. C. PASHBY,
City Clerk.

Bids close October 19, 1921.

Notice to Building and Heating Contractors.

Statesboro, Ga.

Sealed Proposals will be received by the City Council of Statesboro, Georgia, on Wednesday, October 19th, 1921, at 12 A. M. in Statesboro, Georgia, for the erecting and heating of a High School Building for the Town of Statesboro, according to plans and specifications prepared by Willis Irvin, Architect, 1403-04 Lamar Building, Augusta, Ga.

Plans and specifications may be secured by Building Contractors upon a deposit of \$25.00, and by Heating Contractors upon a deposit of \$10.00, which deposits are to be returned upon the submission of a bona fide bid and the return of the plans and specifications in good condition to the Architect. Building Contractors may secure extra sets of plans upon a payment of \$5.00 per set to cover printing costs; these plans remain the property of the Architect. Plans will be on file in the office of the Atlanta Builders Exchange, the office of Willis Irvin, Architect, Augusta, Georgia and J. L. Renfro, Mayor, Statesboro, Georgia.

Proposals for the erection of the building shall be accompanied by a certified check of \$1,000.00 and proposals for the heating shall be accompanied by a certified check for \$250.00; said check to be made payable to J. L. Renfro, Mayor. Bonds will be required of the successful bidders. The right is reserved to reject any or all bids.

J. L. RENFRO,
Mayor, Statesboro, Ga.

Bids close November 2, 1921.

Jail

West Palm Beach, Fla.

Sealed bids will be received by the Board of County Commissioners of Palm Beach County, Florida, at the Clerk's Office at West Palm Beach, Florida, up to 12 o'clock noon on Wednesday, the 2nd day of November, 1921, for furnishing all labor and material for the construction of a County Jail Building at West Palm Beach, Florida, as per plans and specifications on file in the office of the Clerk of the Circuit Court at West Palm Beach, Florida.

Also bids for furnishing all material and labor for the construction of the steel cells and other steel work for the new jail building.

Copies of specifications and plans may be obtained from the Clerk on deposit of fifteen dollars, the amount of deposit to be returned to the bidder when plans are returned to the Clerk in an undamaged condition after bidder shall have made a bona fide bid or bids on the work.

Each bidder will be required to submit with his bid or bids a certified check or bid bond running to the Board of County Commissioners of Palm Beach County in an amount equal to two per cent. of his bid or bids, as a guaranty that the bidder will, if awarded the contract, enter into contract for the construction of said Jail building, or the construction and placing such steel cells and other steel equipment for the jail, and the completion of the same, according to the plans and specifications prepared therefor, and give bond satisfactory to the Board for the amount of bond or bonds named in the specifications.

Bidders shall bid separately on the Jail Building, and on the steel cells and steel work. The present cells now in use in the County Jail may be used in the New Jail Building, and bidders shall state in bids on steel and cell work, the amount they will put in entirely new cells for, also the amount they bid, using the cells now in the present County Jail.

The Board of County Commissioners having levied a tax of two mills on the real and personal property for five years for the County Building Fund for the purpose of building a new County Jail, the payment for the work on New Jail Building and Steel and Cell Work will be made from the County Building Fund when the taxes are collected each year for this fund. The approximate amount of money available for the building of the Jail and Cells and Steel Work each year will be about \$20,000 if the taxes are all collected.

Bidders are required to state the time necessary for completing the contract.

The Board reserves the right to reject any or all bids.

By order of the Board of County Commissioners.

HECTOR HARRIS, Chairman.
FRED E. FENNO, Clerk.

(Seal of Co. Com.)

CLASSIFIED OPPORTUNITIES

MINERAL AND TIMBER LANDS WATER POWERS MISCELLANEOUS PROPERTIES

FOR SALE—By owner, cut-over hardwood lands located near railroad and good town. Clay loam soil, underlaid with limestone, similar to lands in Kentucky bluegrass region; lands that will raise 100 bu. oats per acre; wonderful grass and clover land; good climate; good roads; good water. Will sell in tracts of 5,000 acres and upwards. Extra good opportunity for capitalists seeking safe, sane and profitable investment. Address James E. Merritt, 1246 First National Bank Bldg., Chicago.

COLOMBIA, S. A.—5,000,000 acres, Republic of Colombia, South America—Ideally located as to climate for farming, grazing, timber and minerals, over 18,000,000 feet of hard and valuable timber. Large deposits of tin, tungsten and antimony, coal and gold, silver, copper, iron, manganese, vanadium, petroleum. An asphalt field $\frac{1}{2}$ mile wide by 10 miles long—Very cheap. A cash bargain. E. George & Co., 407 Broadway, New York City.

FUEL OIL
FUEL OIL—Large quantities of 19/21 Tuxpan Crude and 12 plus Panuco Crude, also daily deliveries of 24/26 gravity fuel oil. E. George & Co., 407 Broadway, New York.

CLAY PROPERTIES
LARGE BRICK CLAY PROPERTY.
Favorably located directly on railroad and on bricked highway, eight miles west of Newberne, N. C.; adapted for high-grade brick, tile and other clay products. Has been examined and recommended by an eminent engineer as being unusually meritorious. Report will be furnished to interested parties. Owners will accept part payment in securities of properly financed and managed company. Thomas B. Hammer, Owner, Philadelphia, Pa.

COAL
AVOID COAL shortage and high prices later. Buy coal from us now and save money. Can furnish smokeless, splint, gas, by-product for your plant, home or retail yard. Write or wire for prices. MOORE & HETZEL, Charleston, W. Va.

COAL LANDS AND MINES
MANUFACTURER PROTECT YOURSELF AGAINST FUTURE COAL SHORTAGE.

Experienced operator has coal tract over three hundred acres, partially developed, in the heart of Maryland coal fields; two workable veins, four and six feet thick; unable to complete plant account business depression. Engineer estimates cost of completing plant twenty-two to twenty-eight thousand dollars, with approximate recoverable tonnage three and a half million tons. Assure your coal supply by getting in touch with us. Box 147, Piedmont, West Virginia.

On P. R. R., in Jeff Co., Pa., 1,000 acres of coal, 5 ft. seam, acreage or royalty. Address Alex Walte, Reynoldsville, Pa.

ANTHRACITE COAL LAND.
20,000 acres high grade anthracite, fee simple, 3 seams 3 to 16 feet. 35,000,000 feet timber, 12,000 acres fine orchard land. R. R. 2 miles. Nearest anthracite coal to tidewater. Price \$1,000,000. Expert reports and service. Yeatman, Pill & Smith, 2109 First Ave., Birmingham, Ala.

RATES AND CONDITIONS.

Rate 30 cents per line per insertion. Minimum space accepted, four lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: invariably cash with order; check, post-office or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, oil or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 25c. per line; 300 lines, 25c. per line; 500 lines or more 25c. per line.

TIMBER LANDS WANTED

WANTED—Timber lands and income properties. Any size, anywhere. Write Chas. A. Philidus, 510 E. 120 St., New York.

CROSS TIES

We have excellent proposition for Purchasing Agents or users of cross ties in large quantities, both pine and oak. Rail and water transportation facilities. P. O. Box 472, Georgetown, S. C.

LUMBER AND BUILDING MATERIAL
LUMBER AND BUILDING MATERIAL
WHEN IN NEED of flooring, ceiling, siding, finish, roofers, lath, shingles and dimension; write Stephens Lumber Co., Jacksonville, Fla.; 50 E. 42d St., New York City or Hibernia Bank Bldg., New Orleans, La.

Dry Hardwood—For Sale
7 Cars 8/4 Hard Maple.
5 Cars 8/4 Beech.
3 Cars 8/4 Hemlock.
H. K. CROFOOT, Moravia, N. Y.

TIMBER

LATH AND TOBACCO STAVE TIMBER
FOR SALE—10,000 to 15,000 cords standing timber on N. S. R. R., near Newbern, N. C. Will sell by the cord with cash advance. Fine opportunity for laths or tobacco stave factories. Thos. B. Hammer, Phila., Pa.

TIMBER FOR SALE.

From twenty to one hundred and fifty million feet, in separate tracts, of pine and of hardwood. Deal direct with owner. J. W. Barnes, Savannah, Ga.

TIMBER OPERATION.

FOR SALE—Lumber milling proposition, complete equipment, now in operation. Eastern Carolina; 25,000,000 feet timber; plenty more available; big bargain; \$175,000, half cash, balance terms. Address No. 5700 care Manufacturers Record, Balto., Md.

TIMBER LAND

14,938 ACRES in fee on Apalachicola River in Florida. Thirty-five million feet Cypress Oak, Ash and Gum. Price \$7.00 per acre. Terms to responsible parties.

Thirty Million feet high grade Cypress, Poplar, Oak, Ash, Gum and Pine on Flint River in Georgia unlimited amount can be added direct from owners at a low price. Best mill location in State. Price \$75,000.00 on terms. Reason for selling have ten years cut for our mills other than these tracts.

REYNOLDS BROS. LUMBER COMPANY
ALBANY, GA.

CHEAP TIMBER LANDS.

We have timber lands, well located. At prices cheaper than pre-war prices. One especially attractive tract for Mine-pros or keg staves. 575 acres all in growing timber.

GOOD INVESTMENT PROPOSITIONS.
BATTE & BROWDER.
Jarratt, Va.

FARM AND TIMBER LANDS

YOUR OPPORTUNITY to buy a 5,000 acre stock and timber ranch, including a herd of registered cattle and equipment, and saw and planing mill and equipment. Only \$12.50 per acre, cash or terms, No trade. J. D. Gerlach, Doniphan, Mo.

HUNTING PRESERVE FOR SALE

Produced \$20,000 Worth of Furs in 1919. Will sell in fee about 15,000 acres containing a large amount of high grade hardwood saw timber; also vast wealth suitable for pulp and paper making. Large variety of soils, much extremely fertile. Will make one of the best stock ranches in the South. Price an inducement. Address P. O. Box 1128, Wilmington, N. C.

CITY PROPERTY

AT MUSCLE SHOALS, ALA.—For Sale: 17½ acres suitable for building lots or plant site, on state road 1 mile from Wilson Dam on Tennessee River 1½ miles from L. & N. R. R., and 1 mile from city limits, Florence, Ala. For price and terms Address 5867 care Manufacturers Record, Balto., Md.

SUBURBAN PROPERTY

FOR SALE
97 acres adjoining the City of Roanoke. Best lot sub-division; big money-maker; good terms act quick. Address No. 5876 care Manufacturers Record.

FRUIT, FARM AND TRUCK LANDS

FLORIDA
FLORIDA—Did you ever think about Florida strawberries—marketed in December to May—potatoes, cabbage, lettuce, celery, etc., and the high prices they bring? We also ship in trainload the best oranges and finest grapefruit in the world. Send for 1921 list of groves and farms. Tampa West Coast Realty Co., Inc., opposite Post-office, Tampa, Fla.

FOR SALE—Everglade muck lands along the Tamiami Trail, also lots in Tamiami Townsite, 28 miles west of Miami. An investment opportunity worth investigating. Realty Securities Corporation, Miami, Fla.

LEARN of the Vale of Paradise, where dreams come true. This wonder city is having a magic growth, and a million dollars in municipal improvements are authorized for this year. Every kind of business opening here. We have seventeen miles of protected water front, with gorgeously beautiful home sites. Wonderful homes. Wonderful velvety lawns. Wonderful flowers in semi-tropical profusion. Fishing supreme. Every day you can catch the big fellows until your back aches and your hands blister. Paradise for motor boats, with hundreds of miles of protected waterways with wonder spots to visit. Finest motoring roads in the South. Bathing in bay and gulf wonderful. Healthiest city in America, with no business for doctors. Greatest golf course in America under construction. Coolest place in America in Summer, delightful in Winter. You may own a beautiful home here, with a perpetual income, at practically no investment. Grasp the opportunity of a lifetime. Address THE MAYOR, Valparaiso, Fla.

GEORGIA

FARM FOR SALE.
If you want a real good farm write for full description of my 2,500 acres located on two railroads in Hazlehurst, Ga. Beautiful dwelling, good tenant houses. E. Lloyd Thomas, Hazlehurst, Ga.

MARYLAND

\$200,000—979-ACRE STOCK, DAIRY and Alfalfa farm near National Capital, (40 up-to-date buildings) sacrificed to close Estate for \$75,000. \$25,000 Cash, balance long time 6%. R. B. R. Chew attorney, 426 Fifth St., Washington, D. C.

FRUIT, FARM AND TRUCK LANDS

MARYLAND
ONE OF THE FINEST.
42 acres adjoining Frederick, Maryland, the garden spot of the State. Frontage on avenue nearly 2000 feet. Limestone land, highest state of cultivation. Master's house of brick contains 12 rooms and offers all modern conveniences. Good tenant house and all necessary outbuildings. City water piped to all buildings. Fine proposition for subdivision. Price \$25,000. Potts & Griffin, Frederick, Md.

MISSISSIPPI
FOR SALE OR EXCHANGE for good income city property, 2,300 acre plantation, 10 miles from capital of Mississippi, or will sell half interest. J. N. Forgy & Bro., Cowan, Tenn.

MEXICO
MEXICO RANCH—429,000 acres at 40¢ per acre. Terms. Timber is worth several million dollars. C. E. McGinnis, P. O. Box 722, Fort Worth, Tex.

GOOD Sugar, cotton and corn land, in ample rainfall district of Mexico, at \$3.50 acre; agents wanted. H. F. Clawson, Box 778, San Antonio, Tex.

OKLAHOMA
GLENN LUCERNE for Sale—Best farm in Oklahoma; must sell to enter other business; 640 acres; improved; 8 houses and barns; good water abundant; produces corn, 50 to 80 bushels; oats, 60 to 100; cotton, bale and over per acre; alfalfa, 5 cuttings; grows timothy, potatoes, vegetables—anything; black clay valley soil; government soil survey gives same analysis to 18 feet; never wear out; rural delivery; school three-fourths mile; 5 miles to county seat, with railroad and state agricultural college; healthful; ample rainfall; bargain for home or rent; price, per acre, \$110. Box 537, Tishomingo, Okla.

VIRGINIA
MOUNTAIN RESORT PROPERTY AND GAME PRESERVE. 1368 acres in Bath County, 10 miles from Hot Springs, Va., adjoining an estate of 108,000 acres and another of 30,000 acres. Buildings estimated to be worth \$100,000. Four fine mineral springs; good roads; adapted to blue grass. Bass and trout fishing; wild turkeys, Pheasants, foxes, quail and deer abound. Ideal climate sportman's paradise. Price only \$35,000.00. Catalogue free Oglesby Real Estate Agency Inc., Lynchburg, Va.

BUSINESS OPPORTUNITIES

FOR SALE—Lumber Milling Proposition, 5,000 acres in fee, complete equipment, now in operation. West Virginia, 15,000,000 feet of timber, 500,000 feet now on stick. This property will be sold at a bargain. Address Jno. C. Chidester, Weston, West Virginia.

SAND-BAGS FOR SALE
1,000,000 BAGS 3½ CENTS
NEW bags made from 10¼-ounce burlap, size 14x33 inches; will sacrifice at 3½ cents apiece, delivered anywhere. Sample orders; will ship not less than one bale, 1,000 bags. Jos. Werner, 70 Pliny St., Hartford, Conn.

MY ASSOCIATIONS with responsible New York Underwriters enables me to prepare your propositions in a manner which will demand their serious consideration. Attorney Alfred S. Perry, Fairfield, Conn.

BUSINESS OPPORTUNITIES
In Knoxville and E. Tennessee, Drug, department, and general merchandise stores a specialty. Factories and industrial sites, business leases. Advantageous commercial and industrial connections made in all parts of the South.
CHAS. L. HENCK COMPANY,
Knoxville, Tenn.

BUSINESS OPPORTUNITIES

SILENT PARTNER with \$3,000 to \$5,000 to be used in financing Farm Light and Water Systems to farmers, also the sale of gas and oil filling station with auto supplies as a side line. Good rate of interest allowed. Address No. 5898 care Manufacturers Record, Balto., Md.

FOR SALE—Owing to advanced age will sell modern garage located at County Seat of a rich agricultural section in Middle Tennessee, carrying a Ford Agency. Box 229, Gallatin, Tenn.

BANK & LANDS—Controlling interest in going Natl bank, minor interest in 6 nearby banks, owners beautiful residence. Will include several fine farms. Address J. L. McKamey, Imboden, Lawrence Co., Ark.

To manufacturing enterprise of the right kind will give a water power partly developed, on Rivanna river, one mile from C. & O. railroad station (other power sites available), and a reasonable quantity of land at station.

Will join right man in manufacturing concrete brick, etc.: large deposit of sand and gravel, located at water power; have large shale deposits; some manganese and pyrite outcrop. C. E. Jones, Carysbrook, Va.

ELECTRIC MOTOR agents wanted in unoccupied Southern territory by old established concern. Applicants must have financial responsibility and must be able to sell motors. An opportunity to connect with a manufacturer who will co-operate with you to develop business. Address: No. 5871 care Manufacturers Record, Balto., Md.

Water works and electric plant to supply water and light to the suburb of a large City. Fine proposition. Address No. 5875 care Manufacturers Record.

I SPECIALIZE in industrial, warehouse and business sites at and adjacent to Washington, D. C.

M. B. HARLOW,
Harlow Building, Colorado Building,
Alexandria, Va. Washington, D. C.

WANTED—A good-sized block of high-grade stock of exceptional earning possibilities to market among our large clientele. Money must be for expansion. Wiers & Co., 115 Broadway, New York Established 1894.

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INVENTORS—Send sketch or model of your invention, for opinion concerning patentable nature, and exact cost of applying for patent. Book, "How to Obtain a Patent," sent free. Gives information on patent procedure and tells what every inventor should know. Established 25 years. Chand-lee & Chandlee, 412 7th St., N. W., Washington, D. C.

PATENTS, TRADE-MARKS AND COPY-RIGHTS.—Write for our Free Illustrated Guide Book and EVIDENCE OF CONCEPTION BLANK. Send model or sketch and description of your invention for our opinion of its patentable nature free. Highest references. Prompt service. Reasonable terms. Victor J. Evans & Co., 712 9th St., Washington, D. C.

BUSINESS PROPERTY

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WE SPECIALIZE IN
Choice Chain Stores,
Railroad Sidings and Warehouses.
Business Properties.

WEAVER BROS., 735 15th Street N. W.

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ADA, OKLAHOMA FACTORY SITES FREE
CHEAP NATURAL GAS FOR FUEL
PLENTY OF PURE SPRING WATER
TWELVE DIFFERENT RAW MATERIALS
THE BEST LIVING CONDITIONS
EXCELLENT TRANSPORTATION FACILITIES
INVESTIGATION INVITED BY CHAMBER OF COMMERCE.

BALTIMORE

FACTORY

SITES

William Martien & Company.
1413 Lexington Bldg.,
Baltimore, Md.

INDUSTRIAL PLANTS FOR SALE

MACHINE SHOP AND GEAR CUTTING PLANT
MACHINE SHOP & GEAR CUTTING PLANT.

Central Pennsylvania. Only gear shop in wide area. Price less than cost of building, includes active business. Parties of reputation and ability can purchase plant for unusually small cash outlay. Industrial Department, Spear & Company, 840 Broadway, New York City.

WOODWORKING PLANT.

FOR SALE—Industrial plant located on main line Southern Railway in city of High Point, N. C. Consists of several acres of land, two splendidly constructed factories, engine room, drying plant and equipment new machinery. Primarily a furniture factory, but well suited for any furniture specialty. Address Atlantic Bank & Trust Co., Greensboro, N. C.

FACTORY BUILDINGS

FIVE STORY FACTORY BUILDING.
With separate foundry, in central Pennsylvania city of 50,000. Sixteen thousand feet of heavy manufacturing space in heart of city. Nearly one acre of ground alone worth price asked for plant. Held by Bank and must be liquidated. Easy terms. Industrial Department, Spear & Company, 840 Broadway, New York City.

FOR SALE OR LEASE

3 Large Brick houses 20x100-ft. each one of these being 4 story with elevator. 1 Iron-clad house, 2 office buildings, 1 boiler house, 1 nice two-story residence with out-building and stable. About 16 acres ground, just out of city limits on L. N. with switch to all buildings and with plenty water. With no city tax or city license and good point to ship into coal, oil and timber fields, makes this an ideal place for factory. Would consider part of purchase price in stock. Bourbon. Storage Co., Paris, Ky.

FOUNDRY AND MACHINE SHOP

Well equipped foundry and machine shop with good established trade on line of Southern Railroad in Western North Carolina. Will lease to reliable parties or sell. Owner's time taken up with other matters. If interested advise No. 5878 care Manufacturers Record, Baltimore, Md.

INDUSTRIAL PLANTS FOR SALE

COTTON MILL
SOUTHERN COTTON MILLS.
We have for sale two cotton mills.
One of 4000 spindles.
One of 4200 spindles.
Write or wire for particulars
F. C. ABBOTT & CO.,
First Building, Charlotte.

TIGHT BARREL HEADING PLANT
UNUSUAL OPPORTUNITY — Complete tight barrel heading plant in good condition located in Louisiana town of forty thousand—plenty cheap timber—will sell liberal terms to right parties—For sale and owned by a bank able to finance proposition. Address No. 5889, care Manufacturers Record, Balto., Md.

INCORPORATING COMPANIES

ARE YOU GOING TO INCORPORATE—reorganize or consolidate, are you planning to promote or finance any proposition? If so, write us for particulars. We render service everywhere.

National Legal Service Company,
Suite 436, Ridge Building,
Kansas City, Missouri.

TARIFF

PROTECTION
OUR PROPER PERMANENT POLICY
by James T. McCleary

Formerly Congressman from Minnesota, Assistant Postmaster General in the Roosevelt Administration and ex-Secretary of the American Iron & Steel Institute.
One of the most informative and interesting books on one of our most important national questions

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"Unquestionably the best and most elucidating treatment of the subject ever put in book form."—Leslie M. Shaw, Former Secretary of the Treasury.

Price \$3.50 in U. S. \$4.00 Elsewhere
Postage Prepaid
Address Manufacturers Record, Balto., Md.

INFORMATION WANTED.

What is the latest available authentic information worth to you? General information bureau; congressional and legislative information; general research work; briefs; digests; codifications and abstracts. Interviews. Investigations. General business representative. Materials for essays, debates, theses, sermons, speeches, lectures, arguments, addresses, editorials, and special articles on any subject and for any occasion. Card, analytical, intensive and general index work. Concordances. If you want thorough, conscientious, individual, expert work procure the services of Wm. McAfee Goodwin, District National Bank Bldg., 1406 G St., N. W., Washington, D. C.

MERCHANDISE WANTED

SPOT CASH for surplus merchandise job lots, close-outs, discontinued lines, goods—ordered-and-left-on-hand, etc. (no machinery). No quantity too large. Quick cash for real bargains. Fantus Bros., 529 S. Dearborn, Chicago, Ill.

INDUSTRIES WANTED

MISCELLANEOUS

YOU WILL TRAIN with a live crowd when you locate your factory in Hattiesburg, Miss. For details write the Chamber of Commerce.

REFRIGERATOR FACTORY

Nashville Chamber of Commerce wishes to correspond with responsible parties relative to establishment of refrigerator manufacturing plant. Unique opportunity in virgin field. Very attractive proposition can be made to right parties. Address W. R. Manier, Sr., Secy., Nashville, Tenn.

HOTEL

HOTEL FREE—\$15,000 lot and \$5,000 Cash, donated to any responsible party who will build a modern fire-proof Hotel of 50 rooms or more. This lot is the best Hotel site in the City. Main Hotel recently burned. Best Hotel City in the South. There will be no taxation on this building for a period of five years. If interested write Aberdeen Chamber of Commerce, Aberdeen, Miss.

PRINTING AND EMBOSING

BETTER PRINTING for less money. Printing users send for free samples and standardized prices of a thousand items. E. Fantus Co. Printers 523 S. Dearborn St., Chicago, Ill.

FINANCIAL

"THE Betrayal of the People in the Federal Reserve Act," T. Cushing Daniel, author. This "International Bankers' Gold Basis Scheme" has produced and can produce nothing but disaster. Read the remedy in this book and act at once to protect your business, your family and your country. Popular Edition, 25 cents. The Monetary Educational Bureau, 1416 F Street, Washington, D. C.

Capital needed for the development of Carolina Beach near Wilmington, N. C. The Vale of Paradise, where dreams come true—where the weak grow strong and the strong grow great, is situated on the mainland fourteen miles from Wilmington and offers every natural advantage of the Florida Beaches, with the added attraction of being reached from New York, Philadelphia or Baltimore in one night's ride. We have miles of smooth unbroken beach, the finest and most beautiful along the South Atlantic Coast, magnificent scenery, wonderful surf for bathing, finest fishing, hunting and boating. Capital is needed for development. We solicit correspondence. Full details upon request. M. H. Moore, Box 432, Wilmington, N. C.

SITUATIONS WANTED

POSITION WANTED—Trained as Chamber of Commerce Secretary. Experience as branch manager—freight and passenger departments railroads—good knowledge all-around business—working knowledge of law. Married. Age upper thirties. Now unemployed. Seeking change of position. Any line. Address E. J. Bonner, 405 West Sixth Street, Sterling, Illinois.

TO BOARDS OF TRADE:—Do you desire to secure the services and cooperation of a thoroughly competent developer, one who can originate, outline, coordinate, and put into successful practice in a big way, means and methods of efficiently developing your town in a solid, substantial, healthy and profitable manner? If so, let us get together promptly. Kindly get down to business in your first letter, saving time and expediting effort. Address No. 5897, care Manufacturers Record, Balto., Md.

BOOKKEEPER, CREDIT MAN, (21) years of age desires connection with a large corporation with permanent position and chance to learn the business and advancement. Can furnish A1 bank references. Address No. 5894, care Manufacturers Record, Baltimore, Md.

Successful commercial organization secretary and manager with several years of experience contemplates change in near future. Man of highest calibre and ability. 35 years of age and married. Good organizer. Wants to train with live crowd or would start new organization. A-1 references. Address: No. 5891 Manufacturers Record, Baltimore, Md.

WANTED—Position as secretary or manager of a live commercial organization in growing town or in any firm or company where experience and executive ability are required. Have had much experience in important surveys for and management of social service work in cities and states. Graduate in law, attended classes for commercial secretary work. 37 years of age, married. Christian, and can furnish highest references as to ability and character. Address No. 5890, care Manufacturers Record, Balto., Md.

MEN WANTED

WANTED—Reliable man who has had successful experience in the operation of Bottling Plant to take charge of an up-to-date plant located in the center of one of the best coal fields in West Virginia. Plant fully equipped. Everything modern. No indebtedness. Must have at least \$5,000.00 to invest in the business. References required.

Write George H. Williamson, Attorney, 27 Citizens National Bank Building, Charleston, W. Va.

MEN WANTED

EXECUTIVES WANTED

Business shows upward trend—many concerns now considering men of ability for responsible positions. We put you in touch with them. Our service guaranteed. Details free. The Cleveland Vocational Bureau, 424 Bulky Bldg., Cleveland, Ohio.

AGENTS—Splendid proposition to sell lubricating oils and kindred products. List also includes prepared paints, roofing, roof coating, belting, etc. This is no shoddy proposition. Pay weekly. Get our proposition. Doty Co., Station A, Cleveland, Ohio.

IF ACTUALLY QUALIFIED for salary between \$2500 and \$25,000, communicate with undersigned, who will negotiate strictly confidential preliminaries for such position; executive, administrative, technical, professional; all lines. Not an employment agency. Undersigned acts in direct confidential capacity, not jeopardizing present connections. Established in 1910. Send name and address only for explanatory details. R. W. Bixby, Inc., 303 Lockwood Bldg., Buffalo, New York.

WANTED: Experienced Mill Supply man capable of taking full charge of well established Mill Supply Department in Virginia. Only those having executive ability and experience need apply. Good position for right party. Address No. 5887 care Manufacturers Record, Baltimore, Md.

SALESMAN—One who is calling on power plants in any part of Pennsylvania, New Jersey, Delaware, Maryland to sell on commission as side line high grade article that is needed and wanted by every power plant. Address No. 5880 care Manufacturers Record, Baltimore, Md.

MOTOR YACHT

FOR SALE—50 ft. 28x40 model Milt gasoline—28x40 motor yacht—newly equipped, especially suited Southern waters. For particulars address, W. T. Maginnis, 2127 Prytania St., New Orleans, La.

MACHINERY AND SUPPLIES

BOILERS FOR SALE—Nine boilers, 30 H. P. to 180 H. P. high pressure. Oklahoma Boiler & Sheet Metal Works, Picher, Okla.

FOR SALE—Two 60 H. P. boilers (Hartley make), one 75 H. P. High Speed Automatic Skinner engine, one 50 K. W. generator, three motors, 5 to 20 H. P.; all in good condition and a rare bargain. Address P. O. Box 537, Montgomery, Ala.

FOR SALE—One 600 HP Sarge-Cochrane Hot Process Water Softener, capacity 2000 gal. per hour, complete with chemical solution tank, feed apparatus, filter, etc. Address Draycott Mills, Inc., Fulton, N. Y.

PIPE FITTINGS, valves, electric wire contractors' blocks, etc. Low prices. Pratt Thompson, 220 E. Lexington St., Baltimore, Md.

BOILERS FOR SALE

4-512 H. P. Class S-26 Stirling Boilers—Hand Fired Practically new—160 lb. working pressure.

WILSON & CO.

Purch. Dept.
41st & Ashland Ave.
Chicago, Ill.

ROAD ROLLER, 3-wheel, 10-ton Russell with compound engine, 150-lb pressure boiler, used about ninety days, overhauled, tested, painted and practically new. Price, \$1,800 F. O. B. Wytheville. Other ROAD MACHINERY bargains. R. P. Johnson, Wytheville, Va.

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Regular Sailings Serving

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General Offices, BALTIMORE

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Modern new brick and steel factory at Elyria, Ohio, built in 1920, equipped for manufacturing auto and truck frames. All machines motor driven. Crane, Track in building. Contractors bought from receiver, and will sell for less than American Appraisal Company's value of equipment installed. Area site, 25.85 acres. Appraisal three buildings and land, \$88,756. Complete information on application.

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Being the Real Estate and full equipment of The Hanover Steel Casting Co., situated on South Charles Street, Hanover Street and alongside the B. & O. R. R., Baltimore, Md., to be sold on the above premises by Public Auction on Monday, November 21st, 1921, at 10.00 o'clock a. m. The plant has a large frontage on South Charles Street running through to Hanover Street and alongside the B. & O. R. R. with siding into the property. It has approximately 16,000 square feet of ground about 8,700 square feet of floor space.

Also All the Machinery

including 1½ ton electric furnace, electric annealing furnace, core ovens, compressors, moulding machines, vibrators, mixers, grinders, motors, etc., being full equipment for the manufacture of steel castings. Further particulars from the undersigned Receivers.

N. B. Labor and housing conditions in Baltimore good.
Randolph Barton Jr. John D. Nock Receiver's
207 N. Calvert St. Baltimore, Md.

Sam W. Pattison & Co.

AUCTIONEERS, Baltimore, Md.

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For Sale or Lease

For Manufacturing or Warehouse Purposes Only

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Extending from East Point to Inman, Georgia

Atlanta Rates	Regular Switching
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R. R. OTIS, Agent

Arcade Building

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DAYTONA, FLORIDA

(The Atlantic City of the South)

NEEDS HOTELS AND APARTMENTS

We have: A fast growing community—
—30 miles of the finest beach in the world.

—90 miles of ocean and River Shore Line
offering finest building sites.

—a population the year around of 10,000.
—a popular tourist resort, and facilities.
Best drinking water and wonderful climate.

The most attractive summer and winter point
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VALUATION \$4,500,000

Enormous Quantities Machinery, Metals, New Materials and Equipment

To be Sold in Suitable Trade Lots Without Limit or Reserve

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SMITH & JAFFE

Sells by public auction on premises CAROLINA SHIPYARD, Wilmington, North Carolina

MONDAY

TUESDAY

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THURSDAY

FRIDAY

SATURDAY

October 24th

25th

26th

27th

28th

29th

At 11 A. M. Each Day, Standard Time

CONSISTING OF

3 Ingersoll Rand, Type "PRE" 2, air or gas compressors, capacity 2,600 cubic feet, electrically driven by Synchronous motors, 438 H. P., 180 R. P. M., 60 cycle, with exciters and controls. Vertical air receivers 60" x 14'. Sullivan Air Compressor, capacity 1,250 cubic feet, belt driven by 200 H. P. Westinghouse motor, 440 volts, 60 cycle, 3 phase, and oil compensator.

Hills & Jones No. 8 bending rolls 30' 2" between housings motor driven by GE 75 H. P. motor, 3 phase, 60 cycle, and 30 H. P. GE motor for raising and lowering rolls.

6 New Furnace Scotch Boilers, diam. 15' 3" x 11' 5 1/8" long working pressure 200 lbs. to square inch, equipped with forced draft front, combination coal or oil. Lloyd Inspected, full set of plans and specifications for assembling.

MACHINERY

Gisholt 42" vertical boring mill with 2 swivel heads, quick change feed, 7 punches and shears up to 48" throats, capacity up to 1 1/2" hole through 1" plate, some motor driven.

2 Lysholm plate punch tables, take up to 30'.

6 pipe machines up to 12" capacity drill press, wall drill, 12' capacity. Pipe expander, power hammers, blowers, furnaces, grinders, pumps. Pond 2 head planer 48 x 48 x 14". Quickwork No. 6 Rotary shear, cap. 3/4".

1 Acme Rivet making machine with complete dies up to 1 inch. Pond Lathe 42 x 30' with taper attachment, Triple B. C. J. & L. 3 x 36 flat turret lathes. Bickford semi Universal Radial drill 4 1/2 ft. arm. Portable electric welding outfits, Portable electric drills. Tool room lathe with taper attachment.

2 Triple expansion engines, 2800 H. P. complete from throttle to wheel.

150 motors 1 H. P. to 200 H. P. AC and DC.

3 GE Power transformers, 60 cycle, 500 KVA from 11500 to 440 volts. 3 GE lighting transformers, 60 cycle, 100 KVA from 11000 to 110-220 volts.

2 GE rotary converters, 1200 R.P.M., 187-250 volts, DC, type HCC, 60 cycle, 880 amperes, 250 volts, with GE transformer 240 KVA 11000 to 187 volts.

Acetylene generator plant complete with tanks.

Electric galvanizing plant.

Large quantities of pneumatic air drills.

Riveting, chipping and caulking hammers and dolleys.

Tons of new rope up to 8" circumference.

New lumber, pine, fir, and fir decking.

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7 Flat cars, 60,000 lbs. capacity, standard gauge.

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31 Lidgerwood double cylinder single drum hoists.

16 Shepard "I" beam electric trolley hoists.

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40 wood stiff-leg derricks, 5 ton capacity 45 to 50 ft. booms.

60 ton steel 2 boom dock derrick.

40 Steel booms, 5-30 ton capacity.

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Planers, knife grinders, band saws, with tilting head, saw tables, moulders.

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2,000 TONS OF RIVETS. LARGE QUANTITIES OF PLUMBING AND STEAMFITTING SUPPLIES MATERIAL AND EQUIPMENT

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- 1-100 H.P. Locomotive Fire Box 90 lbs. pressure.
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- 4-18" I Beams—30' Long.
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- 20-6" Diam., Round Bars—13' 6" Long.
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60 FOOT STEEL TOWER
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220 H. P. Westinghouse step ring type induction motor, 3 Phase, 60 cycle, 440 volts, 550 RPM.—Drum type controller with resistance.

11½ K. W., Westinghouse Generator, type "M", 110 Volts, D. C., 1150 Rev.

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2—50 H. P. General Electric D. C. Type D. L. C. Motors 220 volts, 650 R. P. M.

**Machine Tools
Boilers, Engines
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1/2 H. P. Westinghouse single ph. 60 cy. 110/220 V. 1750 RPM. repulsion type \$40.00.

3 H. P. 3-ph. 60 cy. 220/440 V. 1200 RPM. complete with pulley and base \$70.00; 7 1/2 H. P. \$85.00; 10 H. P. \$120.00; 15 H. P. \$140.00.

These motors are known as the PHOENIX motors which we consider the highest grade motor on the market and are equal to such makes as General Electric, Westinghouse or any other motor on the market. It is guaranteed for one year from date of sale. They are packed in their original crates. Great bargains in other sizes. Let us quote you on your requirements.

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KW	Generator	Engine
40	Westinghouse	Ames
70	Westinghouse	Ideal
70	Westinghouse	Ball
70	General Electric	Ball
80	Westinghouse	Hamilton four valve
120	Westinghouse	Rice Sargent Corliss
120	General Electric	Hamilton Corliss
125	General Electric	C. & G. Cooper Corliss
125	General Electric	Harrisburg
125	General Electric	Erie City 4 valve
150	Bullock	Ames
175	General Electric	Skinner Unadflow
200	Westinghouse	Lents poppet valve new
240	General Electric	Ames Tandem Comp.
250	Allis-Chalmers	Buckeye
250	General Electric	McIntosh Seymour
300	General Electric	Green Wheelock
300	General Electric	McEwen Tandem Comp.
325	Allis-Chalmers	Buckeye Tandem Comp.
300	Westinghouse	C. & G. Cooper Cross Compound

DIRECT CONNECTED UNITS 110/125 Volts D. C.

KW	Generator	Engine
20	Western Electric	Ball-Wood
25	Western Electric	Ball-Wood
50	Western Electric	Ball-Wood
60	Western Electric	Ball-Wood
75	Thompson Ryan	Ridgway four valve
100	General Electric	Harrisburg
110	Westinghouse	Straight line
150	Allis-Chalmers	Erie City four valve
200	Bullock	Allis-Chalmers
250	Crocker-Wheeler	Harrisburg Tandem

DIRECT CONNECTED UNITS 220/250 Volts D. C.

KW	Generator	Engine
39	General Electric	Harrisburg
3	wire	
75	Westinghouse	Harrisburg
3	wire	
100	Thompson Ryan	McEwen
100	General Electric	Ames
3	wire	
100	Sprague	Ames
100	Westinghouse	Harrisburg
100	General Electric	American Ball Angle Compound
100	Crocker-Wheeler	Harrisburg
150	General Electric	Harrisburg
150	Western Electric	Erie Ball four valve
160	General Electric	Harrisburg
200	Westinghouse	American Ball Angle Compound
200	Milwaukee	Ames
225	C&C	Hamilton 4 valve
300	Westinghouse	Murray Corliss
3	wire	
300	Westinghouse	Buckeye Cross Compound
300	General Electric	Ball-Wood Tandem
3	wire	
350	General Electric	Buckeye Cross Comp. Vertical
500	Burke	Erie Ball

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- 1-16x18 Chandler & Taylor.
- 1-14x18 Erie City Iron Works Automatic.
- 1-14x16 Brownell Slide Valve.
- 1-13x16 Erie City Iron Works Automatic.
- 1-13x16 Chandler & Taylor Slide Valve.
- 1-11x14 Houston-Stanwood-Gamble Slide Valve.
- 1-10x12 Chandler & Taylor.

ROTARY CONVERTERS

- 2-1000 kw. Westinghouse, 600 volt D. C., 6 phase, 60 cycle, 900 R. P. M. Rotary Converters, with Transformers for 66,000 high voltage.

MOTOR GENERATOR SET

- 1-200 kw. Allis-Chalmers, 275 volt, Synchronous Motor Generator Set, 900 R. P. M., with a 225 kva. Allis-Chalmers, 3 phase, 60 cycle, 2300 volts, 900 R. P. M. Motor, complete.

D. C. GENERATOR.

Belted and Direct Connected.

- 1-250 kw. Crocker-Wheeler, 250 volts, 200 R. P. M. Generator, direct connected to a 22x22 Harrisburg Automatic Engine.
- 1-150 kw. Allis-Chalmers, 250 volt Generator, direct connected to a Skinner Automatic Engine.
- 1-100 kw. Bullock, 120 volt Generator, direct connected to a 15x16 Skinner Automatic Engine. (Can also be furnished for 220 volts).
- 1-100 kw. Triumph, 125 volts, 675 R. P. M. belt type Generator with accessories.
- 1-60 kw. Jants & Leist, 250 volts, Generator, direct connected to Skinner Automatic Engine.
- 1-35 kw. Triumph, 125 volt Generator, direct connected to 9x12 Skinner Automatic Engine.
- 1-22½ kw. Allis-Chalmers, 120 volt, 925 R. P. M. belt type Generator.

- 1-10 kw. Fairbanks-Morse, 110 volt, 1200 R. P. M. belt type Generator.

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Belted and Direct Connected.

- 1-5000 kw. General Electric Vertical, 3 phase, 60 cycle, 4500 volt Turbo Generator Set. Condensing.
- 1-3000 kw. Westinghouse, 3 phase, 60 cycle, 4400 volts Turbo Generator Set. Condensing.
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- 1-375 kva. Allis-Chalmers, 3 phase, 60 cycle, 4000 volts, 150 R. P. M. Alternator, direct connected to a 21x30 Fleming-Harrisburg Corliss Valve Engine. (Can be furnished for either 2000, 480 or 240 v.)
- 1-300 kw. General Electric, 3 phase, 60 cycle, 2300 volt Turbo Generator Set. Condensing.
- 2-200 kw. each, Delaval Bullock, 3 phase, 60 cycle, 220-440 volt Turbo Generator Set. Condensing.
- 1-150 kva. Allis-Chalmers, 3 phase, 60 cycle, 2300 volt Alternator, 150 R. P. M., direct connected to a 14x30 heavy duty Allis-Chalmers Corliss Engine.
- 1-100 kw. General Electric, 3 phase, 60 cycle, 220 volt, 3600 R. P. M., horizontal Turbo Generator Set with accessories, including condenser.
- 1-75 kw. Allis-Chalmers, 3 phase, 60 cycle, 240 volt, Alternator, direct connected to a 13x15 Skinner Automatic Engine.

D. C. MOTORS

No.	H. P.	Make.	Volts.	R.P.M.
1	50	Used Allis-Chalmers	250	860
1	30	Used Jants & Leist	250	600
1	20	Used Triumph	220	965
1	15	Used Minnpls.	110	350
1	12½	Used Minnpls.	220	950
1	7½	Used Triumph	220	835
2	5	Used Triumph	220	1350
1	5	Used J. & L.	220	900
1	5	Used Triumph	115	1000
1	3	Used Minnpls.	110	725
2	4	Used Triumph	110	1025

Also many other sizes and types.

BOILERS

- 4-350 H. P. Stirling, 197-lb. pressure.
- 3-250 H. P. Franklin Heine type, 170-lb. pressure.
- 2-207 H. P. Geary Heine type, 170-lb. pressure.
- 2-175 H. P. Atlas, 150-lb. pressure.
- 3-200 H. P. 84x18 high pressure H. R. T.
- 4-150 H. P. 72x18 high pressure H. R. T.
- 1-125 H. P. 72x16 high pressure H. R. T.
- 2-100 H. P. 66x16 high pressure H. R. T.
- 1-80 H. P. 60x16 high pressure H. R. T.
- 1-60 H. P. 54x14 high pressure H. R. T.
- 1-50 H. P. Standard Fire Box on skids.
- 1-25 H. P. 42x95 new Vertical, 125-lb. pressure.
- 1-15 H. P. 36x83 new Vertical, 100-lb. pressure.
- 1-10 H. P. 30x83 new Vertical, 100-lb. pressure.

A. C. MOTORS.

3 Phase, 60 Cycle, Squirrel Cage and Slip Ring.

No.	H. P.	Make.	Volts.	R.P.M.
12	7½	New General Electric	220	1800
8	10	New General Electric	220	1200
2	15	New F. M.	440	1750
10	15	New General Electric	220	1200
1	20	Used F. M.	220	1200
8	20	New General Electric	220	1200
8	25	New General Electric	220	1200
1	25	New G. E. (Slip Ring)	220	1200
5	30	New General Electric	220	1200
1	30	Used Westinghouse	220	1200
1	35	Used G. E. (Slip Ring)	220	1200
4	40	New General Electric	220	1200
4	50	New General Electric	220	900
1	50	Used Western Electric	440	900
3	50	New G. E. (Slip Ring)	440	900
4	75	New G. E. (Slip Ring)	220	900
3	100	New G. E. (Slip Ring)	220	900
1	100	Used Westinghouse	220	1200
2	150	New G. E. (Slip Ring)	440	720
1	200	New G. E. (Slip Ring)	440	600
3	250	New G. E. (Slip Ring)	440	600
1	300	New G. E. (Slip Ring)	440	600

Also many other sizes and types.

Any of the above 220 volts motors can be furnished for 440 volts and vice versa.

OUR SHOPS AND EXPERIENCE ARE AT YOUR SERVICE

**SEND FOR OUR CATALOGUE IF
IN NEED OF TOOLS AND EQUIPMENT**

STOCK INCLUDES:

Air Tools
Air Receivers
Air Compressors
Anvils
Arbor Presses
Bending Slabs
Blowers
Boilers
Boiler Cars
Bolt Cutters
Bolt Headers
Boring Mills
Buffing Machines
Cars (R. R.)
Centering Machine
Concrete Mixer
Core Oven Car
Cornice Brake
Cranes—Gantry
Cranes—Monorail
Cranes—Overhead
Derrick
Drills—Column
Drills—Radial
Engines
Fans
Forges (Rivet)
Flanging Press
Furnace (Brass Melting)
Generator Sets
Grab Bucket
Hammers (Steam)
Heater—Feed Water

Hoists—Electric
Hoists—Chain
Ladle—(3-ton)
Lathes
Locomotive—Steam
Locomotive—Gasoline
Magnet—(Lifting)
Milling Machines
Motors
Moulding Machines
Nut Tapping Machines
Oxweld Equipment
Pipe Machines
Planers
Pumps
Punches
Riddle
Rivet (Headers)
Rolls (Bending)
Rolls (Mangle)
Saws
Shapers
Shears
Slotters
Solenoid
Tables (Punch)
Tables (Roller)
Tanks (Oil)
Track (Portable)
Transformers
Trolleys
Turbines
Woodworking Machinery

SPECIAL

- 1-300 H.P. Westinghouse, CX, 3 Phase, 60 cycle, 220/440 V. 600 R.P.M. motor.
- 1-250 H.P. Westinghouse, C, 3 Phase, 60 cycle, 220/440 V. 600 R.P.M. motor.
- 1-250 H.P. Crocker Wheeler, 3 Phase, 60 cycle, 585 R.P.M. motor, 220/440 V.
- 1-200 H.P. Westinghouse, C, 3 Phase, 60 cycle, 600 R.P.M. motor, 220/440 V.
- 1-250 H.P. Westinghouse, C, 2 Phase, 60 cycle, 220/440 V. 580 R.P.M.
- 1-200 H.P. Westinghouse, C, 2 Phase, 60 cycle, 220/440 V. 580 R.P.M.
- 1-100 H.P. Crocker Wheeler, 3 Phase, 60 cycle, 2200 V. 720 R.P.M.

**Motors, Generators, Engines, Air
Compressors, Tanks, Boilers, Hoists, etc.**

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Pittsburgh, Pa.

30 KW A.C. Generator

General Electric, type ATB, 3 phase, 60 cycle, 240 volt, 1200 r. p. m. with 1½ KW Exciter mounted on shaft. This apparatus is like new throughout and priced for quick sale at \$600.00 f. o. b. Philadelphia.

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in Motors and Generators.**

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123-125 N. 3rd St.

PHILADELPHIA, PA.

THE AMERICAN SHIP BUILDING COMPANY

Foot of West 54th Street
Cleveland, Ohio.

DEPARTMENT M.

The Freight Bugaboo Exploded

There has been so much talk in the newspapers about high freight rates being prohibitive to business that we have been looking up freight rates and figuring the freight on motors from Chicago to various points. The figures are surprising.

Freight Rates to Leading Jobbing Centers from Chicago

Dynamos and Motors—Oct. 1, 1921	Less than Carload Per 100 lbs.	Carload Per 100 lbs.
From Chicago to		
Baltimore, Md.	1.54½	.60
Philadelphia Pa.	1.55½	.61
Pittsburgh, Pa.	1.08½	.38
Charleston, W. Va.	1.08½	.38
Indianapolis, Ind. ....	.79	.27½
Detroit, Mich. ....	.88	.31
Cincinnati, Ohio ....	.89½	.31½
Cleveland, Ohio ....	.94½	.33
Memphis, Tenn.	1.42	.67
Knoxville, Tenn.	1.91½	.83½
Nashville, Tenn.	1.70½	.72
Birmingham, Ala.	2.17½	.94
Atlanta, Ga.	2.33½	1.03½
Savannah, Ga.	2.01	1.22
Jacksonville, Fla.	2.01	1.22
New Orleans, La.	1.93	.91
Richmond, Va.	1.54½	.60
Norfolk, Va.	1.54½	.60

The Freight is Low from Chicago—Look

Freight to Philadelphia, Baltimore, New York and New England Points.

1 H. P. D. C. or A. C. motors	2.25
5 H. P. D. C. motors	7.00
5 H. P. polyphase motors	4.50
10 H. P. D. C. motors	10.00
10 H. P. polyphase motors	7.00

Freight to jobbing centers south of the Ohio River.

1 H. P. D. C. or A. C. motors	2.50
5 H. P. D. C. motors	8.00
5 H. P. polyphase motors	5.00
10 H. P. D. C. motors	12.00
10 H. P. polyphase motors	7.00

Freights on larger sizes are proportionately low.

We have nearly a
\$1,000,000 Stock of
ELECTRIC MOTORS AND GENERATORS
every one a BARGAIN far under regular prices.

We sell only SECOND HAND MACHINES but they are OVERHAULED like NEW—most of the machines we offer have been in service only a year, or two—Sometimes only a few months.

Prices now in many cases below 1914 level—order now before prices advance again—our stock is changing rapidly.

Send for our MONTHLY BARGAIN SHEET showing complete stock and net prices that will astonish you—

GREGORY
ELECTRIC CO.
16TH AND LINCOLN ST
CHICAGO, ILLINOIS

MACHINERY—FOR SALE
ELECTRICAL

DYNAMOS, MOTORS AND
GENERATING UNITS.

POWER PLANT

BOILERS, ENGINES,
PUMPS AND AIR COM-
PRESSORS.

METAL WORKING

MACHINE TOOLS,
PRESSES, LATHES,
PLANERS, MILLING MA-
CHINERY, and etc.

LARGE STOCK OF NEW AND USED
EQUIPMENT ON HAND AT ALL TIMES

THE O'BRIEN MACHINERY CO.
119 N. Third St., Philadelphia, Pa.

Long-Distance Bell Telephone: Market 21-21.
Cable Address: O'Brien, Philadelphia.

A. C. MOTORS

Immediate Delivery. Large Stock,
Three Phase and Single Phase, Sizes ½ to 50 H. P.
Send Us Your Inquiries Before You Buy.

SEEGER MACHINE TOOL COMPANY,
Machinery and Supplies

34 S. FORSYTH ST., ATLANTA, GA.

POWER

Steam Engine Generator Sets,
Dynamos and Motors In Stock.

Our erecting engineers are at your service.

COLEMAN-SHOEMAKER, Inc.

COMMERCIAL TRUST BUILDING PHILADELPHIA

NEW — MOTORS — USED

Let us figure on your requirements

HARRY W. MOTTER

Electrical Power Equipment

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That Idle Machinery

Is not making any money for you.
Turn it into cash.

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Boilers, Engines,
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Heating Contractors,
Machinery Supplies,
Steam Power Plant
Equipment,
Machine Repairs

Motors, Generators,
Power Equipment,
Factory Supplies,
Re-winding,
Construction
and Repairing

PIPE

**ALL SIZES SECOND-HAND
FOR ALL PURPOSES**

Furnished with new threads and couplings or cut to specifications.

Fittings, Valves, etc.

We have modern equipment and are prepared to make prompt shipments.

JAMES F. GRIFFITH

412-24 Moyer Street
Philadelphia, Pa.

PIPE

All sizes, 3/4" to 12".

Clean, newly threaded, with new couplings, random lengths, 17' to 20'.

CAST IRON B. & S.

4-6-8-10-12", A, B and C grade, standard lengths.

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5 and 6 City Hall Bldg.,

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FOR SALE

PIPE SECOND-HAND All Sizes 1/2" to 24"

Furnished with new threads and couplings, suitable for every practical purpose.

Also large assortment of Contractors' Equipment, Hoisting Engines, Boilers, Concrete Mixers, etc.; all thoroughly overhauled.

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Pipe, all sizes, bought and sold. What sizes are you in the market for? What sizes have you for sale?

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Boilers, Engines, Locomotives, Planing Mill Equipment, Furniture Factory Equipment, Saw Mills, Steel Rail, Electrical Equipment, Etc.

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CRANES & HOISTS

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Specialize in Prompt Service

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SACK AND BARREL ELEVATOR FOR SALE

Due to a surplus of elevators—will sell reasonable—practical and economical sack and barrel elevator 90 feet high complete, Condition A-1. Particulars write:

The Douglas Public Service Corporation
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Throttling governor—Suitable for electric light plant—perfect condition—demonstration given.

THE C. M. KEMP MFG. CO.
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**Red and Buff Dry Pressed Brick,
Common Building Brick**

GEORGIA-CAROLINA BRICK CO.

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Dismantling Propositions are invited

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Money-saving prices on new and slightly used Government Stock; all sizes.

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CHEMICAL MACHINERY

Engineering and Designing
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New and Used Machinery
GLANDER AND COMPANY

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Steam and Mill Supplies, Pipe
Fittings, Complete Power Plant
Equipment, Manufacturers and
Machinists, Refrigerating Engi-
neers and Contractors.

6 and 8 W. Lombard St., BALTIMORE, MD.

PIPE FOR SALE.
From 1" to 20" New and second-hand at less than one-half price. All makes Rotary Drilling rigs in stock.

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COMPRESSORS

2—2678 ft. Ingersoll Rand
2—1482 ft. Ingersoll Rand
1—600 ft. Ingersoll Rand
1—530 ft. Chicago Pneumatic Tool Co.

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ATTENTION FUEL OIL USERS TANKS

QUICK SHIPMENT

For Oil Storage and Similar Liquids.			
50"	dia. x 5'	2" long.	500 gallons.
50"	dia. x 10'	1" long.	1,000 gallons.
84"	dia. x 32'	8 1/2" long.	10,000 gallons.
84"	dia. x 35'	0" long.	10,000 gallons.
76"	dia. x 40'	0" long.	10,000 gallons.
112"	dia. x 14'	10" long.	7,500 gallons.
112"	dia. x 19'	8" long.	10,000 gallons.
120"	dia. x 10'	2 1/2" long.	6,000 gallons.
120"	dia. x 13'	2 1/2" long.	8,000 gallons.
120"	dia. x 15'	2 1/2" long.	9,000 gallons.
120"	dia. x 20'	2 1/2" long.	12,000 gallons.
120"	dia. x 25'	2 1/2" long.	15,000 gallons.
120"	dia. x 26'	10" long.	16,000 gallons.
120"	dia. x 30'	2 1/2" long.	18,000 gallons.
120"	dia. x 33'	5 1/2" long.	20,000 gallons.
120"	dia. x 35'	2 1/2" long.	21,000 gallons.
120"	dia. x 40'	3 1/2" long.	24,000 gallons.
20"	dia. x 21'	4" long.	50,000 gallons.
25"	dia. x 27'	3" high.	100,000 gallons.

FOR ACID STORAGE

102" dia. x 24' 6" high. 10,000 gallons.

ALL NEW

Regular "Sharpville" Quality
SHARPVILLE BOILER WORKS CO.
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All sizes, from 1" to 18" New, Steel Black-line Pipe, with flanges or couplings.
BIG STOCK ON HAND.

Write for prices.

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Large quantity Pipe, with threads and couplings, used in Government plant a short time.

Rods—100 tons 7/8" Round
Rods, 14' to 22' lengths.

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Our Large and Varied Stock of modern used Woodworking Machinery, contains an attractive selection of:—

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Steam & Electric COMPRESSORS
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Hoisting Engines
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Locomotive Cranes
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Orange Peel and Clam Shell Buckets
Motors, Generator, and Refrigerator Units
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One Battery (3) Casey and Hedges Bolders 66x18, complete connections, breeching and stack.
One 20x28 Houston, Stanwood & Gamble Engine,
Also numerous sawmill machinery such as,
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For sale as a whole or in parts.

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CRUSHERS — GRINDERS — PULVERIZERS

**For All Purposes
PLANTS DESIGNED AND EQUIPPED**

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1-12" and 54" 1-A. Fay Band Rip Saw. 1-51" Glibert Band Resaw.
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1-30" 2-drum Fay. 1-26 x 12 Double Surface endless belt type.
1-36" Circular Resaw-power. 1-36" Circular Resaw-power feed.

MOLDERS:
1-7" 3-side Houston. 1-7" 4-side Fay.
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Boilers, Hoists, Pumps, Engines, Ironworking Machinery, Belting, Shafting, Pulleys, Hangers.

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WANTED BUYERS FOR

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**COAL-HOPPER-FLAT BOTTOM GONDOLA CARS
30-40-50-TON CAPACITY
FLAT AND BOX CARS
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LOCOMOTIVE CRANES
STEAM SHOVELS**

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FOR SALE OR RENT ROAD ROLLERS

2 Iroquois, 2½-ton Tandem. 1 Iroquois, 7-ton Tandem.
4 Pioneer, 5-ton Tandem.

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1 Thew No. 0 Traction, $\frac{5}{8}$ yd. dipper.
HENRY A. HITNER'S SONS CO.
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**Locomotives, Steam Shovels, Locomotive Cranes, Cars,
New and Relaying Rail**

WE HAVE FOR SALE

40 Standard and 36" Gauge Modern Direct-connected Locomotives, in all types and weights from 8 to 75 tons.
10 Standard and 36" Gauge Geared Locomotives all weights.
15 Steam Shovels and Locomotive Cranes of different types and sizes.
3000 tons Relaying Rails, all sizes, on our Birmingham yards.
100 sets 35 and 40-lb Frogs and Switches; good as new.

Birmingham Rail & Locomotive Co. BIRMINGHAM, ALA.

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3—Steam Pavers, Chute Discharge, Overhauled and in First Class Condition.
No. 10 E Foote.....\$1000.00
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10 Ton Monarch Steam Road Roller.....1500.00
THE T. J. LANE EQUIPMENT CO.
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LOCOMOTIVE CRANES FOR SALE

Brown Hoist 15-ton 8-wheel 50 & 70 ft. boom
Browning 15-ton electric
Browning 7½-ton electric
Industrial 7½-ton steam
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FLAT CARS:

11—30-ton, stand. gauge, 37 ft. long, airbrakes, first-class condition, meeting all M.C.B. requirements. Immediate shipment. Exceptionally low price.

GREY STEEL PRODUCTS COMPANY,
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Caterpillar Steam Shovel

1—Marion model 36, full revolving, Caterpillar Traction, Shop No. 3700, new 1917, 1½ yd. dipper, 25 ft. boom, First-Class Condition, Attractive Price.

Grey Steel Products Company
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ASPHALT PLANT SPECIAL

We have for sale two used, rebuilt Merriman One-Car Steam Melting Asphalt Plants. One is a 2000 yd. plant and the other a 1200 yd. plant. Both in fine condition.

Here's an opportunity to get a real plant quickly. Better get in touch with us at once.

The East Iron & Machine Co.
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FOR SALE

One—300-ft. Span Lidgerwood Cableway, D.C., 3-D, with boiler and 1¼ yd. clam shell.
One—100-ft. 24-inch Robbins Belt Conveyor.
One—Lot of 30-inch Robbins Belt Conveyor Equipment.
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Two—Steam driven Byers Traction Cranes, 40-ft. boom with clam shell.
JOHN M. GREENE, 261 Drexel Bldg., Philadelphia, Pa.

24x36 Jaw Crusher

Farrell type 15-B. Rated capacity 60 tons, 3" per hour. Also Farrell 10 by 36", type 22-B, rated 40 tons, 2½" per hour. Both good order. Virginia delivery.

Two Chalmers & Williams No. 6 gyratory. Have been used very little. New Jersey delivery.

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COMMERCIAL TRUST BUILDING
PHILADELPHIA

"HOISTS"

Complete Line Rebuilt Steam and Electric Compressors, Mixers, Derricks, Cableways, Boilers, Cranes
Write for List
HOISTING ENGINE SALES CO., Inc
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FOR SALE
37 H. P. ELECTRIC (NEW)
DOUBLE DRUM HOISTING ENGINES

With swinging gear attachment.
Made by **American Hoist & Derrick Co.**
Equipped with magnetic brake.
Capacity:

Pull on single line 6000 lbs.
Speed full load 100 ft. per minute.

Motors furnished with these engines are 220 or 440 Volt, 60 cycle, 3 phase. We can however arrange to equip them with any kind of motor. Prices furnished with or without motor. Shipment can be made immediately.

Write or wire to:

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701 W. West Street, or **WAREHOUSE No. 1**
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SADDLE TANK LOCOMOTIVES

4—14x22, stand. gauge, American 40-ton, 4-wheel built 1919, A.S.M.E. boilers, 180 lb. pressure. Excellent condition.
1—16x24, stand. gauge, American, 50-ton, 4-wheel Shop No. 51,393, 175 lb. boiler pressure, Excellent condition.

GREY STEEL PRODUCTS COMPANY.
111 Broadway, New York, N. Y.

FOR SALE

3—100 M lbs. cap. 41 ft. steel underframe flat or gondola cars.
5—8,000 gal. steel tank cars.
200—tons NEW 60 lb. rails.
WALTER A. ZELNICKER SUPPLY CO., ST. LOUIS

HOISTING EQUIPMENT

2—New, 18"—3 Sheave, extra heavy B. & L. Blocks with shackles.
1—7 x 10 D.C., D.D. Mundy Hoist, no Boiler.
1—10 Ton, 35' Boom, D.D., 4-wheel McMyler Crane
1—20 Ton, 50' Boom, D.D., 8-wheel Industrial Crane

CRUSHERS & ROLLS

1—6 x 16 Bellance Jaw on skids
1—10 x 18 Bellance Jaw, Mounted with Screen & Bin
1—11 x 22 Bellance Jaw, "
2—No. 5, Style "K" Gates Gyratory Crushers
1—No. 6, Style "K" "
1—36" x 48" Allis-Chalmers Jaw Crusher
1—60" x 84" Power & Mining "
1—40" x 15" Allis-Chalmers "Anacanda" Sand Roll
1—54" x 21" "
COMPRESSORS
1—850 cu.ft. Ingersoll Sargeant, Simple Steam
1—1300 cu.ft. " " " " Helical
1—2400 cu.ft. Ingersoll-Rand, Cross Compound Steam
STEAM SHOVEL
1—100-C Bucyrus, 3½ yd. Dipper, Mang. teeth.
T. H. LETSON CO.
48 Church St. New York

TRENCHING MACHINES TO RENT

1—Austin type O gasoline driven caterpillar traction Trenching Machine for ditches 20 to 42 inches wide. Maximum depth 18 ft.
1—Austin type W gasoline driven all caterpillar Trenching Machine for ditches 20 to 30 inches wide. Maximum depth 8 feet.

Rails—Locomotives—Cranes—Cars

E. C. Sherwood, 50 Church St., New York.

PRIVATE EQUIPMENT FOR SALE OR RENT

Byers Auto Crane, ¾ yd. clam-shell.
Thew Revolving Shovel, ¾ yd.
8900 ft. 24" gauge 20-lb. Track.
Whitcomb Gasoline Locomotive, 24" gauge, 3½-ton.
50 Koppel V-shape Steel Dump Cars.
Derrick Car, standard gauge.
Sturdevant Rolls, 20x14.
No. 5 Austin Crusher.
Keystone Excavator, No. 8.
Jaw Crusher, 24x16.
Bucyrus Shovel, 65-ton, 2¼ yd., mounted on railroad trucks. (Bargain.)
55-ton Locomotive, 16x24.
40-ton Climax, 12x14, geared locomotive.
1000 ft. 2" Black Pipe.
Holt Caterpillar Tractor, 45 H. P.
3 Steel Trailers, 5-yd.
¾ yd. Hayward Orange-peel Bucket.
2 Derricks (guy and stiff-leg).
Porter Locomotive, 38" gauge, 8-wheel, 25-ton.
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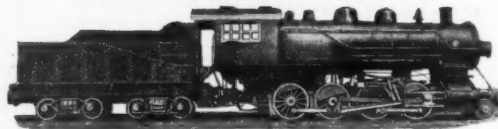
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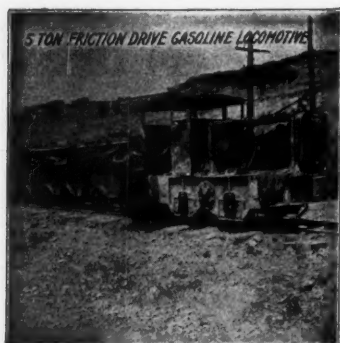
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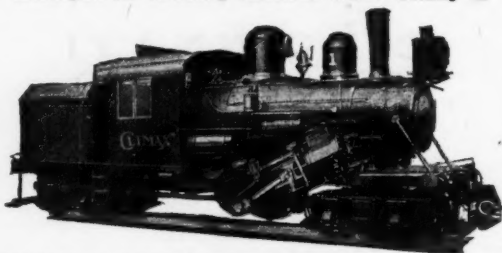
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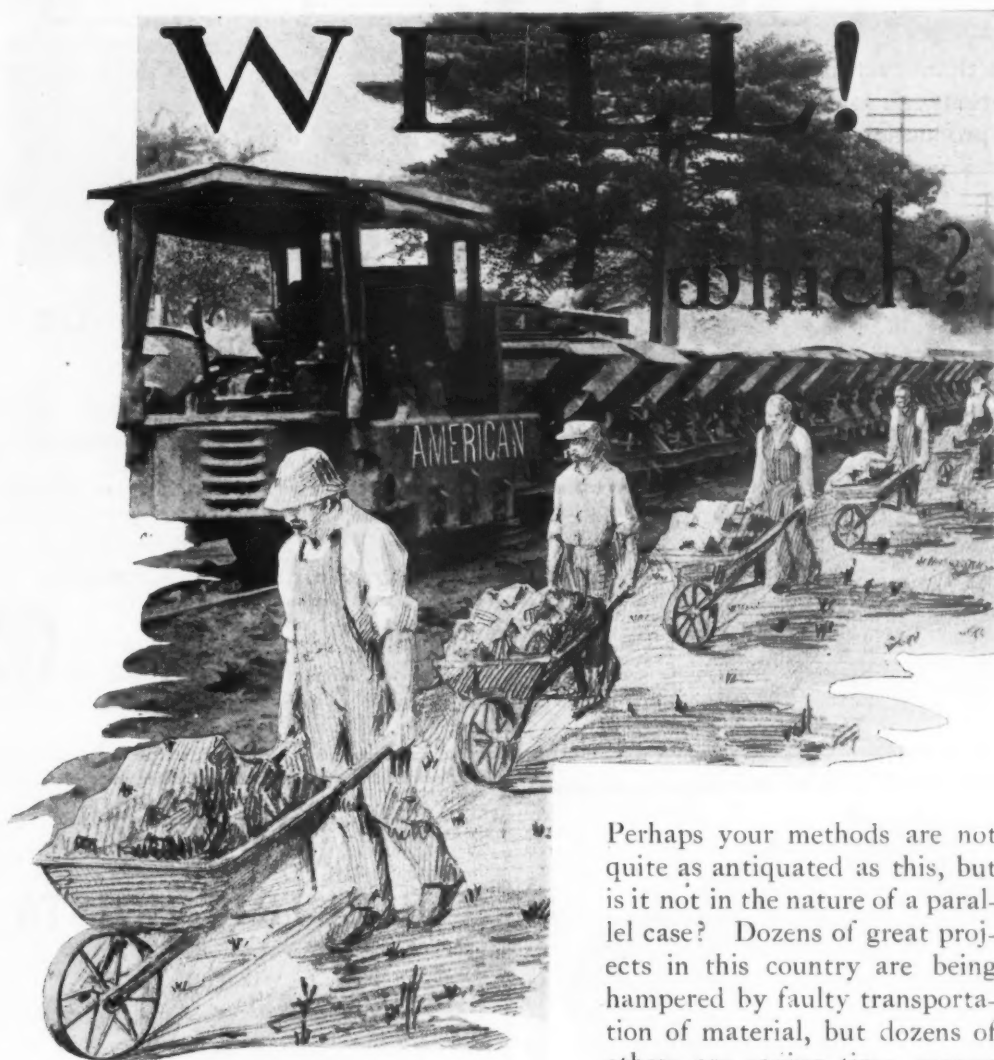


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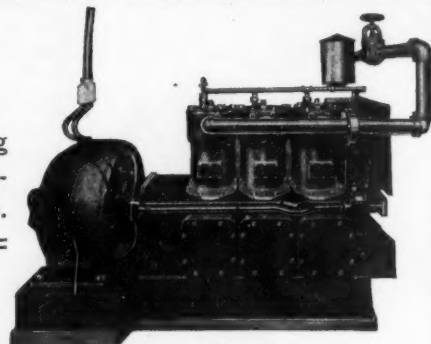
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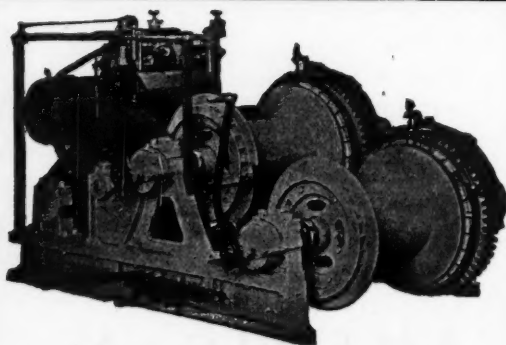
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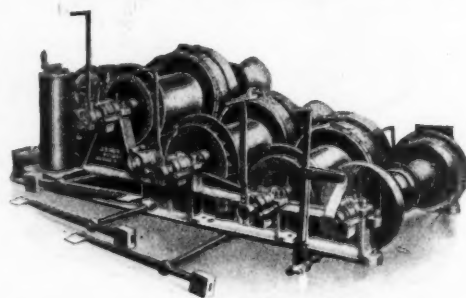
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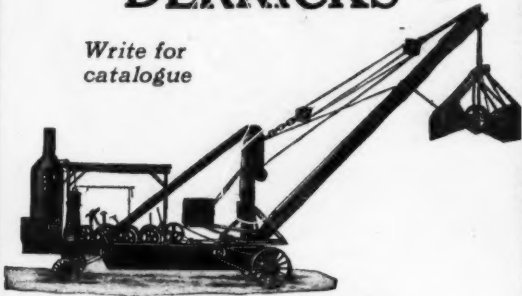
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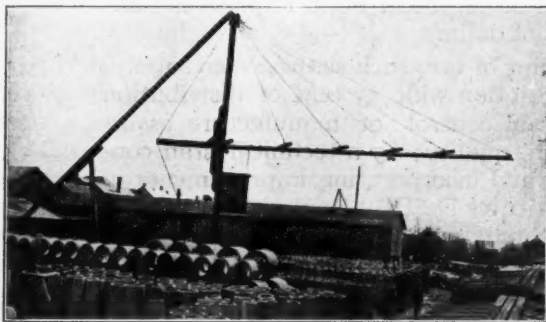
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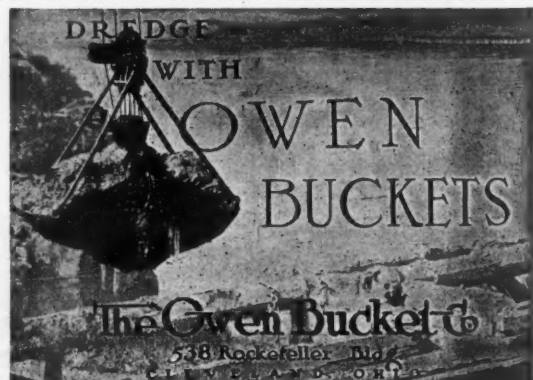
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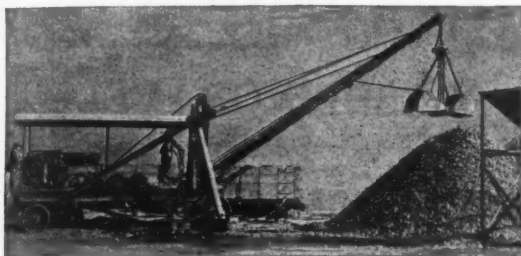
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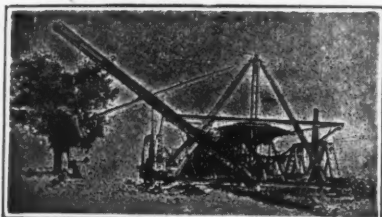
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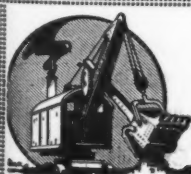
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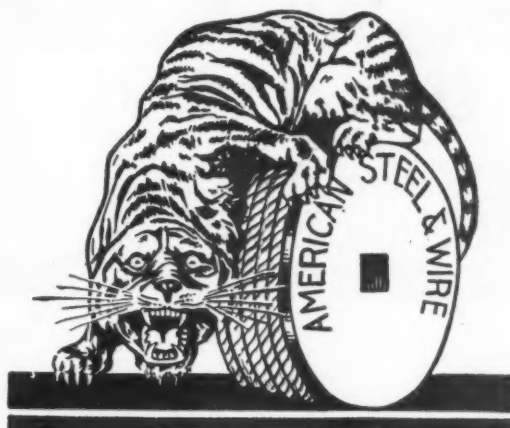
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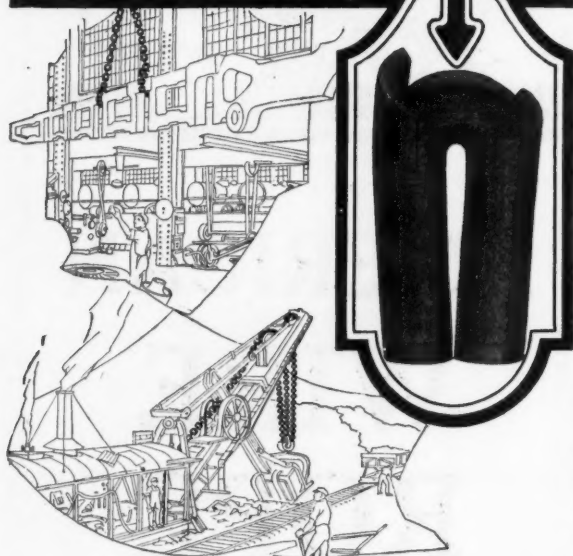
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Kentucky Rock Asphalt is a natural asphalt mix, which does not lose its life. It can be stored in the open for an indefinite time without injury from rain, snow or frost.

Kentucky Rock Asphalt does not crack, roll, buckle or bleed. Cut the road surface today and tomorrow it will be healed under the traffic. This means a perfect water-proof cover for the road base, so essential to the life of the highway.

Let our engineering department help you solve your construction and maintenance problems. Write for Booklet B

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INCORPORATED

711-718 Marion E. Taylor Bldg.

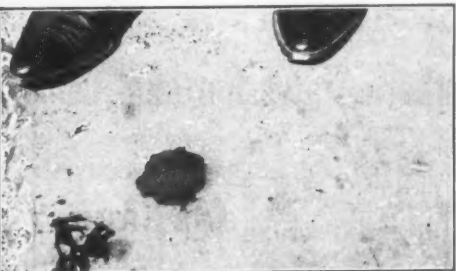
LOUISVILLE, KY.



Old material from road side was placed in a hole dug in the asphalt surface of the road.



The Kentucky Rock asphalt was then tamped with the foot.



The old asphalt bonded with the surface making a perfect patch.

CONCRETE



PERMANENT

MR. TAX-PAYER—YOU!

Do you want your county to spend YOUR good money on roads that will wear out before your bonded indebtedness is liquidated?

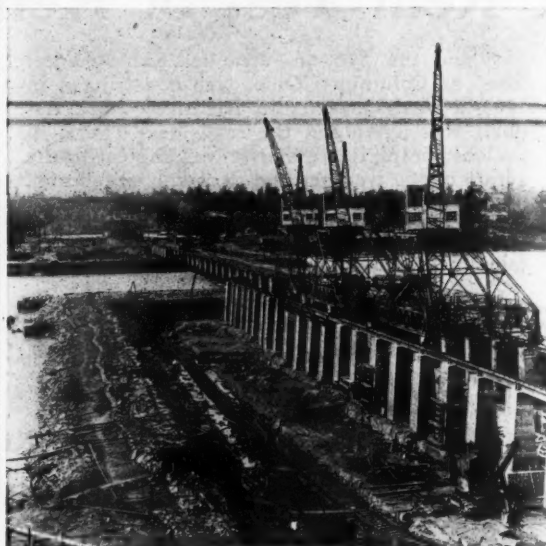
I SAY YOU DON'T.

What you want is a hard-surfaced road, with little cost for maintenance—a road that can be traveled in rain or snow, summer and winter. You want a **PERMANENT** road—that means **CONCRETE**!

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Is made under the direct supervision of chemists and engineers of thorough experience.

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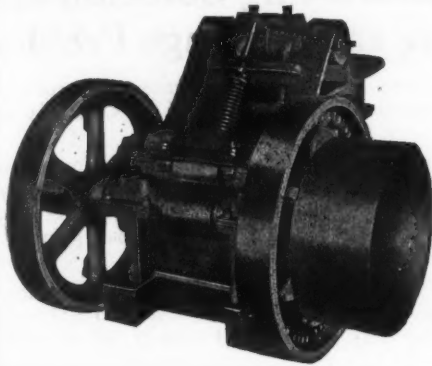
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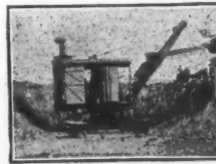


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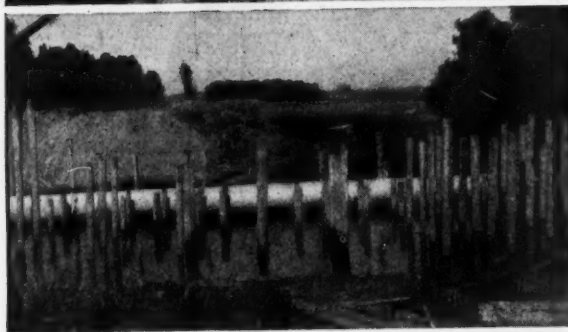
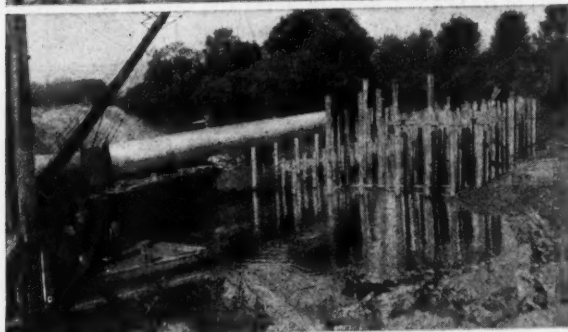
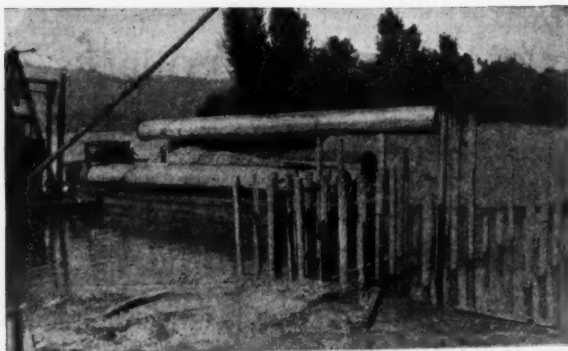
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An Interesting Solution of a Diking and Drainage Problem

A most interesting diking and drainage enterprise was recently completed for 5,600 acres of the Columbia River overflow land.

The appraised value of the land before improvement was approximately \$50 an acre, and after improving \$250 an acre. The cost of all diking, dredging and spillways was \$60 an acre, making a net gain to the owners of property of \$140 an acre.

It was necessary to provide drainage not only for the 5,600 acres of overflow land, but also for 1,800 acres in an adjoining district, and 2,600 acres in adjacent upland.

To inclose the 5,600 acres against high water required $7\frac{1}{2}$ miles of dikes with an average height of 12 feet. There were, all told, 800,000 cubic yards of embankment in these dikes. This work was accomplished with two clam-shell dredges having five-yard buckets and 120- and 110-foot booms, respectively.

However the item of paramount interest was the solution of the drainage problem. The Whalen Slough was selected for one drainage outlet and Burke Slough for another.

A battery of five Calco Automatic Drainage Gates, attached to 6-foot diameter, 10-gauge Armco Corrugated Culverts made up in 110-foot lengths, were placed side by side at the Whalen Slough. A row of piling, 8 feet on center, intercepted each length of culvert pipe to assure proper settlement and avoid misplacement after filling over the culverts. The same class of installation was made at the Burke Slough, except that a battery of six drainage gates and culverts of the same size and length was necessary to care for the drainage from this portion of the district.

The height of the embankment over both installations was 20 feet from the top of the culverts.

This style of construction was selected after considering other methods and was determined not only to be the most economical, but most satisfactory solution of this problem.

As an auxiliary proposition to take care of high-water periods and freshets, a pumping plant was provided at each slough. Both installations of pumps and pipe lines were placed directly over the culvert pipe and drainage gates.

Owing to the fact that the pipe at the time of placement would lie below water level, it was necessary to place them with gates attached in one unit. The clam-shell dredges described above were used to lower the culverts in place. The pipe was made in 14-foot lengths, transported to North Portland and riveted together in 110-foot lengths upon a barge capable of holding four complete culverts.

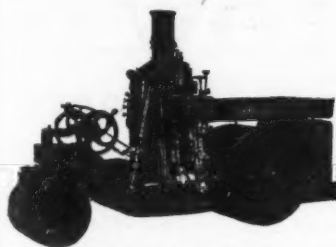
Undoubtedly, these are the longest and largest culverts with gates attached that were ever installed by this method. The weight of each culvert alone was approximately 12,500 pounds and the gate 2,100 pounds.

The use of Armco Culverts and Calco Automatic Drainage Gates has solved many usual and unusual drainage problems.



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View showing Imperial under electric railway.

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Longer Life for Bituminous Roads



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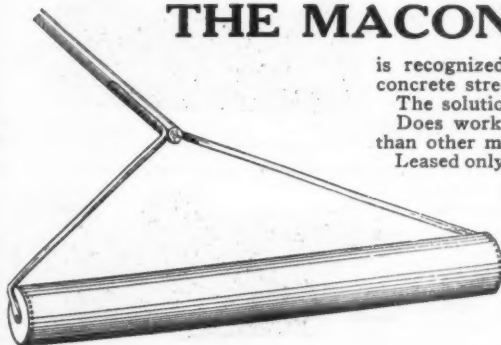
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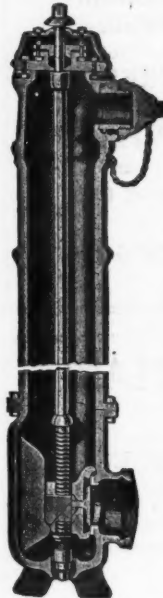
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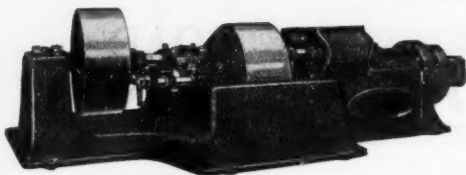
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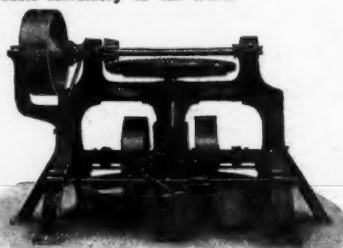
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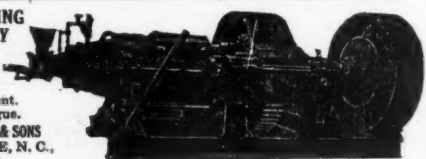
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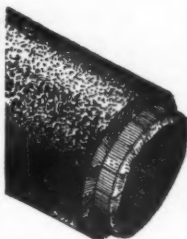
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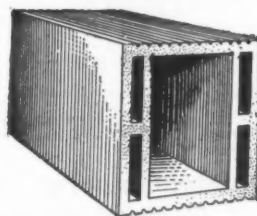
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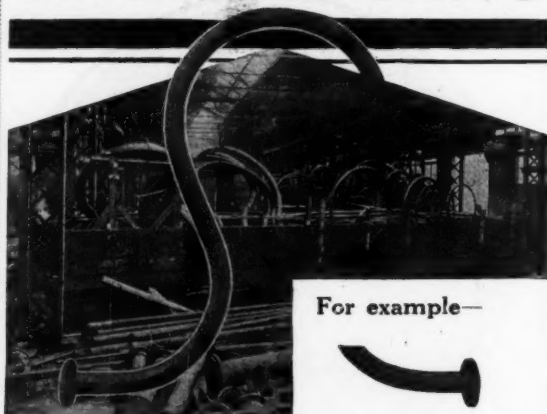


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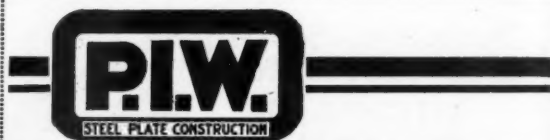
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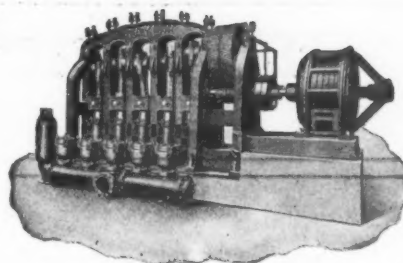
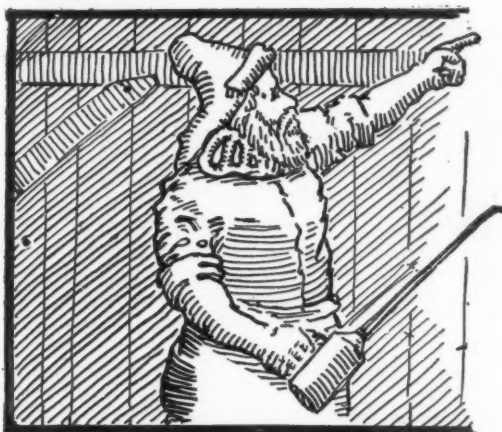
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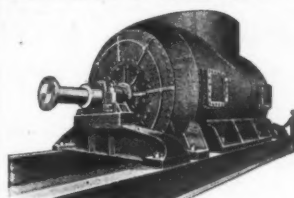
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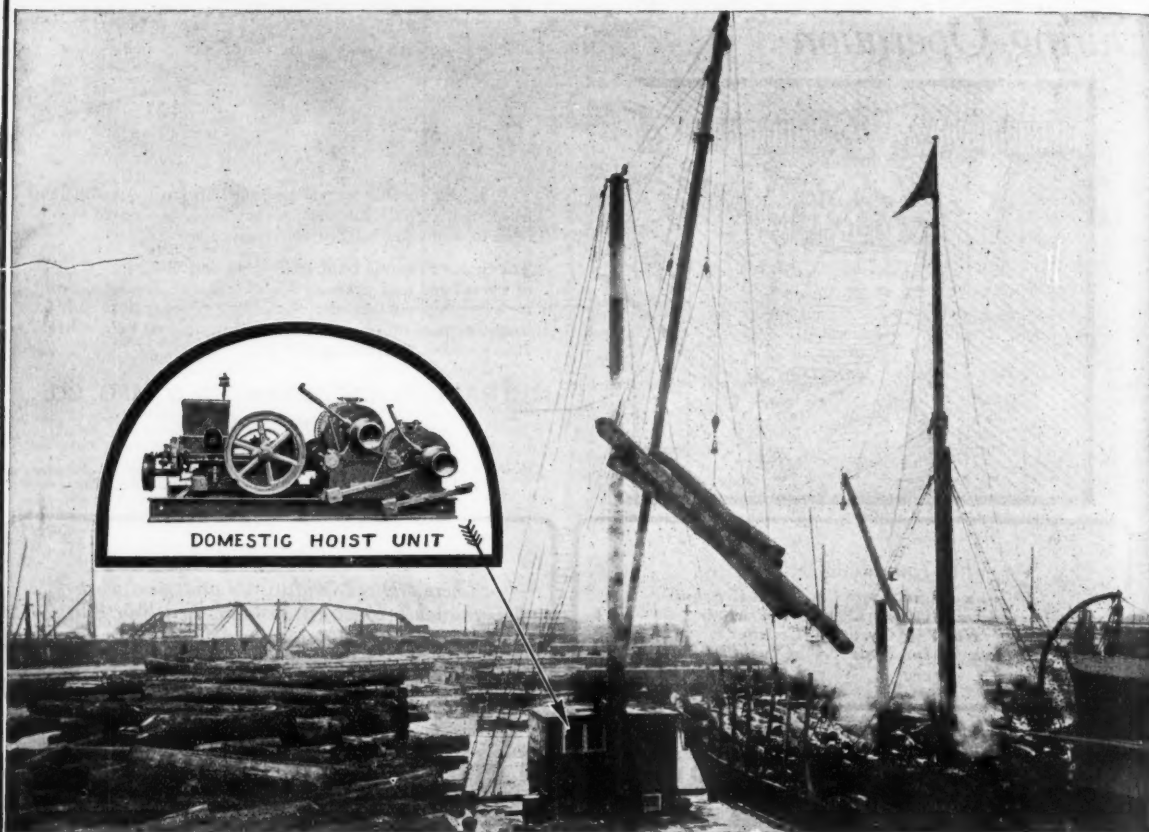
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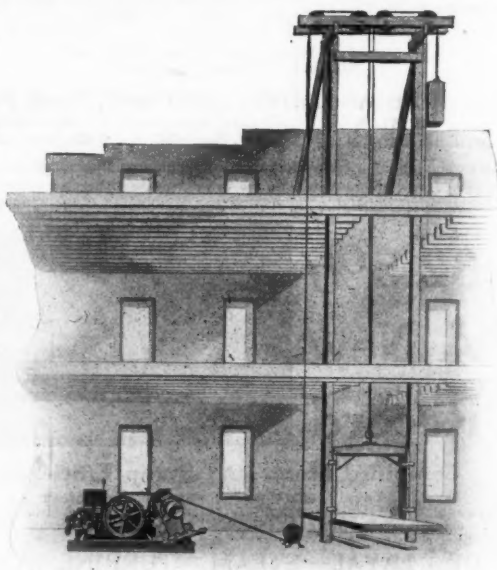
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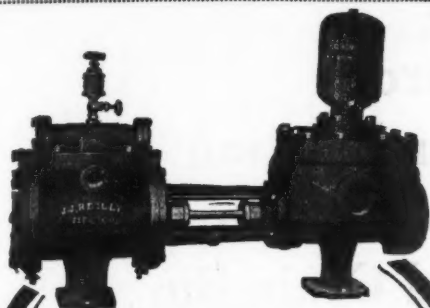
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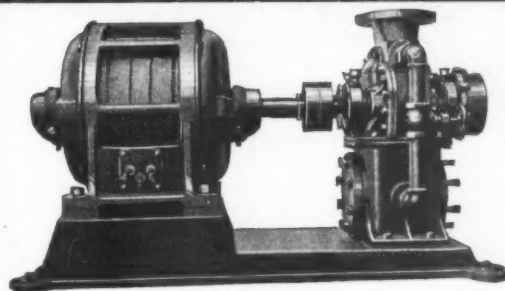
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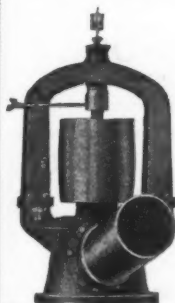
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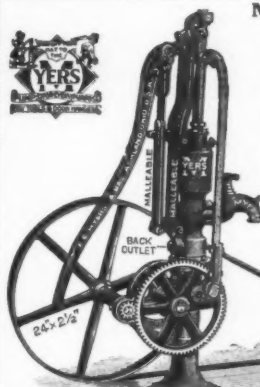
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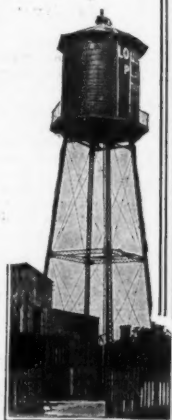
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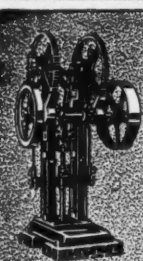
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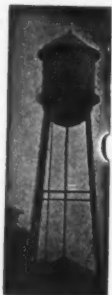
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In this territory is the Lake Worth Drainage District, comprising about 130,000 acres of land lying just west of the railroad, and construction work on this district is now about 80% completed and will be finished by May, 1922.

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The lands are sandy pine, high pine, flatwoods, prairie and muck. They have a high value for productiveness and are in a climate that is favorable for winter production and an abundance of moisture in summer. They are highly desirable for raising avocado pears, mangoes, all the citrus family, as well as trucking and, last but not least, they grow grasses that make possible the raising of cattle.

Sugar cane is being raised in this territory and at least one sugar refinery will be established next year. Several high class dairies are already in successful operation. Both add to the potential value of these lands.

Splendid transportation facilities are available, as the lands lie close to the Florida East Coast Railway and a number of lateral highways penetrate the property.

These lands will be placed on the market very shortly and will be offered in tracts of not less than 40 acres, either for cash or on easy terms at 6%.

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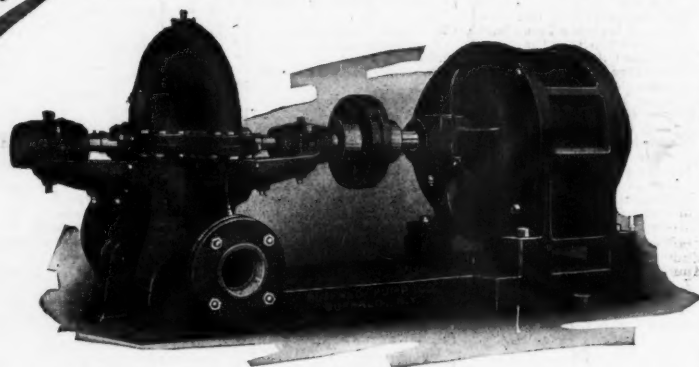
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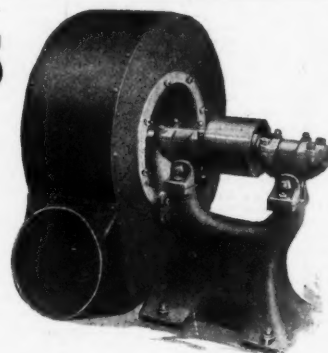
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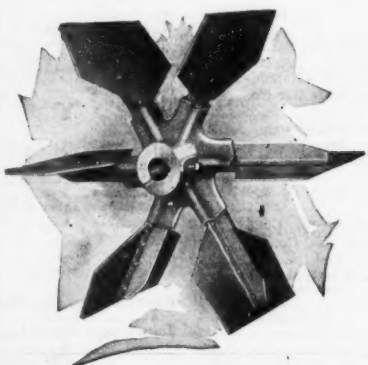
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